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ABSTRACT

Designed to provide a basis for evaluation, planning, research, change strategy development, and policy formation with respect to creating conditions for humane working life, this annotated bibliography contains published and unpublished empirical research dealing with the quality of working life (QWL). The articles, books, and case studies were selected on the basis of whether they involved an association between a behavioral measure of at least one of the 11 criteria selected to represent QWL and whatever individual, work, or organizational factor was measured. Entries are arranged alphabetically by title in one of three sections (published articles, books, and unpublished materials), and each entry includes the title, publication information, and an abstract containing a summary of the major methodological dimensions, followed by a condensed report of the empirical associations found between one or more of the QWL parameters and some other work, organization, or individual factor. Several tables displaying the frequency of association between QWL parameters and work, organization, or individual factors and an index are appended. (SB)

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the Quality of Working Life

An Annotated Bibliography 1957-1972

Center for Organizational Studies
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THE QUALITY OF WORKING LIFE:
AN ANNOTATED BIBLIOGRAPHY

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INTRODUCTION

This annotated bibliography represents a unique and original attempt to systematically review and abstract what has been learned and reported on the quality of working life in the past decade and a half. Specifically, it is the initial step in revealing and classifying empirical research dealing with the quality of working life as the phenomenological experience of people at work. The past several years have seen an increasingly widespread and intense interest in the idea of quality of working life as evidenced by significant recent demonstration of growing governmental and public awareness, such as the following: Senate hearings that led to the first bill in recent years (S. 3916) to fund the study of worker alienation and pursue further research on ways to reduce it; the Ford Foundation's sponsorship of an international social scientists' conference on quality of working life; the mass media's recognition of and publicity about quality of working life and effects of ongoing research and action projects; and efforts by business, government, and social science to come to grips with the issues. Clearly the time is right to review what social science has to offer in accumulated knowledge as a basis for further steps to improve the quality of working life.

The bibliography and its abstracts have been prepared with an eye to two ultimate uses. First, the bibliography is designed to provide a basis for evaluation, planning, research, and change strategy development, from which researchers and professionals can proceed to formulate a coherent body of theory and practice for creating conditions for humane working life. In short, the bibliography is a display of "the state of the art." Second, the bibliography is intended to accumulate experience to date and make it available to managers, union leaders, and government officers preparing to review or evaluate the literature in this area as a prelude to formulating policy and action.

Historically, the idea of quality of working life has included only the issues of wages, hours, and working conditions. These elements have been the prime concern of organized labor and have been well served by them. Wages, hours, and working conditions are still included in any definition of quality of working life, but the concept has expanded to include much more. Industrial organizations are experiencing a phenomenon of worker alienation that results in high absence and turnover despite the tight job market. Business also claims that even when employees are on the job and working, they are reluctant to work with the intensity or dedication that American management once believed it could expect from its workers. Societal interest in the broader implications of the quality of life has had manifest influence on government concern for all aspects of its citizens' experiences--including work experiences.

This is an indication that corporate responsibility must no longer be relied on exclusively to provide quality in the market place, in the environment, or at work. At the individual level, a current social trend toward personal freedom on the job as well as off has resulted in employees who increasingly demand more relevance and involvement in their work.

It seems natural to assume that some scientific investigation preceded the contemporary developments described above. Social scientists have for some years been concerned about work motivation, but in societal and individual areas of concern, their coverage has been less systematic. At no time in the past two decades has the issue of quality of working life been the object of study for its own sake, apart from the topics of industrial health and working conditions.

Although the quality of working life has not been studied systematically, there has been much research in "human relations" at work during the past two decades. What is needed at this point in our experience is to review what has been done as well as to identify the gaps in our learning.

The search procedure used has included review of English language periodicals and books covering the 15-year period from 1957 to 1972, as well as recent unpublished technical reports and case abstracts. The periodicals searched have included primarily those in the applied social sciences (e.g., industrial psychology and sociology, public administration, management and industrial relations) and occupational medicine. On occasion, articles were drawn from the older literature or from more popular periodicals. The major criterion for choice of articles and books has been that they report the examination and behavioral measurement of at least one of some 11 variables selected to represent elements in the quality of working life. Those variables, listed below, constitute our initial definition of the parameters of QWL.

Parameters of the Quality of Working Life

1. Alienation
2. Health and Safety
3. Economic Security
4. Self-Esteem
5. Self-Actualization
    a. Learning and Growth
    b. Using Existing Competence
6. Work Environment
    a. Physical
    b. Social
7. Control and Influence

8. Organizational Enclosure
9. Career Aspirations
10. Extra-Work Activities
    a. Consumption
    b. Creation
    c. Community-Citizen Involvement
11. Home and Family

Interest here extends to off-the-job consequences (e.g., personal, social, political) as well as on-the-job activities such as non-programmed, responsible, or autonomous activities (or programmed, repetitive, or controlled ones), and their on-the-job behavioral consequences such as absenteeism, accidents, or interpersonal interactions. We have not emphasized the issues of either productivity or job satisfaction. This is because, by definition, the former is not quality of working life but, rather, its outcome; the latter, it was felt, would lead only to the morass of "morale studies," which are frequently methodologically poor and usually report no useful empirical associations with organizational or work factors.

That we have chosen to de-emphasize these two issues does not mean we ignored all studies dealing with them. Rather, we opted to report from such studies only the associations between a behavioral measure of a QWL parameter and whatever individual, work, or organizational factor was measured. The practical result has been to condense the literature in a way that makes it strictly relevant to the task at hand, although it also means that some abstracts do not reveal the full scope of the research reported in the original source.

This, then, was the starting point. We selected empirical studies that involved examination of at least two variables, one of which represented an element in the quality of working life as outlined above, the other of which could be included in a universe of a variety of factors in work, organization process or individual characteristics, and could be considered, in some loose sense, causal to the quality of working life parameters. These independent or "causal" variables will be described more fully in the "Instructions for Use" section that follows. Suffice it to say that these independent variables are central to the study of quality of working life, as they form the manipulable context from which work experiences emanate, and by which they can be changed. A comprehensive set of independent variables was not specified before the review was undertaken, as was the case with the quality of working life criteria. Rather, independent variables such as jobs and work, organizational characteristics, and individual differences were compiled as the study progressed. The set of independent variables, therefore, represents everything found to be associated in a logically prior relationship to at least one of the 11 quality of working life criteria.

Certain other variables, subsequently to be referred to as "demographic variables," are also included in the analysis and presentation. Demographic variables are those variables representing some specific characteristic of the work, the organization, or the individuals in a given study. Although not found related to the quality of working life criteria directly, the information from these variables may aid in further analysis of the data presented herein. A complete listing of the demographic variables is presented and described in the following section on "Instructions for Use."

INSTRUCTIONS FOR USE

The data. Three general types of data are included and referenced in the present bibliography of empirical research regarding quality of working life. The first type of data involves variables considered as quality of working life (QWL) criteria. The second type of data involves "independent" or "causal" variables dealing with jobs and work, organizational characteristics including structure and process, and individual characteristics. The second group of variables comprises those variables found to be associated with QWL criteria and considered to be at least logically prior and perhaps causal to them. Finally, the third type of data include "demographic" characteristics of the specific study sites or samples.

I. Quality of Working Life Criteria: The following list presents the 11 major QWL criteria and, in effect, defines the quality of working life as applied to the present document.

Parameters of the Quality of Working Life

1. Alienation
2. Health and Safety
3. Economic Security
4. Self-Esteem
5. Self-Actualization
    a. Learning and Growth
    b. Using Existing Competence
6. Work Environment
    a. Physical
    b. Social
7. Control and Influence
8. Organizational Enclosure
9. Career Aspirations
10. Extra-Work Activities
    a. Consumption
    b. Creation
    c. Community-Citizen Involvement
11. Home and Family

II. Independent or "Causal" Variables: The following list presents the categories of variables found to be empirically associated with one or more of the QWL criteria listed in I, above. These variables can be considered only theoretically or logically causal since in only rare cases are suitable analyses undertaken. These variables do take on additional significance insofar as they form the manipulatable context for quality of working life.

CODE CLASSIFICATION FOR INDEPENDENT VARIABLES

A. Organizational Characteristics

  Process
  1. Climate
  2. Functional Division
  3. Formalization of Policy, Rules

  Structure
  4. Hierarchy
  5. Power Base
  6. Interdependence of Units
  7. Reward Structure
  8. Demographic Characteristics
    a. Age
    b. Size
    c. Location
    d. Product
    e. Ownership
  9. Organizational Environment
  10. Centralization-Decentralization
  11. Union Recognition

B. Occupational and Job Characteristics
  1. Type
  2. Time Conditions
  3. Feedback
  4. Demands
  5. Mobility

C. Supervision

D. Work Group

E. Status and Prestige

F. Training

G. Technology

H. Change
  1. Job
  2. Organization
  3. Technology
  4. Environment

I. Individual Characteristics
  1. Age
  2. Tenure
  3. Sex
  4. Race
  5. Marital, and Family Responsibility
  6. Cultural Background
  7. Experience
    a. Personality, Needs, Expectations, Life Style
    b. Skills, Abilities, Health
  8. Education
  9. Income

J. Decision-Making

III. Demographic Variables: The following list includes a set of 17 organizational and individual characteristics mentioned in the studies abstracted, but which do not necessarily manifest an empirical association with QWL criteria within any particular study.

Demographic Characteristics

A. Organization
    1. Size
        a. Research Site
        b. Company
    2. Location
        a. Urban-Rural
        b. Nation (U.S., U.K., Europe, Other)
    3. Ownership
    4. Age
    5. Process (Organic-Mechanistic)
    6. Structure (Tall-Flat)
    7. Social Innovations (Industrial Democracy, Teambuilding, Autonomous Groups, Other)
B. Work Characteristics
    1. Blue-Collar (Industrial-Service)
    2. White-Collar (Industrial, Service, Administrative, Professional)
    3. Job Enlargement
C. Technology
    1. Process (Batch, Mass, Continous Process)
    2. Type (Traditional, Industrial, Post Industrial)
D. Employee Characteristics
    1. Age
    2. Tenure in Company
    3. Education
    4. Sex
    5. Race

The abstracts. The abstracts have been prepared in a way that should make them most useful for an assessment of "the state of the art." Each one contains a paragraph summary of the major methodological dimensions, followed by a condensed report of the empirical associations found between one or more of the QWL parameters and some other work, organization, or individual factor. As an aid to the user, the QWL parameter is coded in accordance with the outline designation listed under I above. For example, if a paper abstracted referred to "amount of pay," then that phrase is included in the abstract, followed by the parenthetical insertion "(3)," which, as can be seen from the list in part I, is the code designation for the category "economic security." This format provides the user with both the specific variable measured and its relevance to QWL as coded here.

The abstracts are arranged in three major sections: (A) Published Articles; (B) Books; and (C) Unpublished Materials. Within each section, abstracts are arranged alphabetically by author's name. Each abstract is numbered in the order in which it falls within a section. Published articles are numbered from 1000, books are numbered from 5000, and unpublished materials are numbered from 8000. Pages of the bibliography are not numbered but are headed by the numbers of the abstracts contained on that page.

The appendices. Following the abstracts are a series of tables and an index. The index provides the user with a means of identifying those abstracts that include a specific class of QWL criterion variable or a specific class of independent variable. The index also provides a listing, within each QWL parameter, of the particular variable or term used by the original author. All index references are keyed by abstract number. Since the bibliography is arranged alphabetically by author, we have not included an author index in the present version. Finally, the index lists the company name, where it is specified in the original report.

Also included in the appendix are 17 tables. The first of these, Table 1, provides a graphic display of the frequency of association between QWL parameters and work, organization, and individual variables. This table acts as a frequency summary of the raw findings.

The remaining tables act as indices in tabular format. They are designed to provide the user with information regarding organizational and individual characteristics in the studies abstracted. In each table, several classes of demographic information are displayed in a columnar format, under which is listed the full range of QWL parameters or independent variables. The cell entries are abstract numbers that will lead the user to studies dealing with a particular QWL parameter that is also controlled for a specific demographic variable.

SECTION A

Published Articles

Abrahamson, Mark. "The Integration of Industrial Scientists." Administrative Science Quarterly 9 (1964): 208-218.

Questionnaire data were analyzed in a study of the socialization of scientists in five industrial laboratories which vary greatly in size and function.

The results indicate that the more thorough the academic socialization of the scientists, the more difficult the industrial integration (8). This association, however, was modified by tenure. The association was maximum for scientists with less than three years industrial experience and ceased to be significant for scientists with nine or more years of industrial laboratory experience. The relative size of the laboratory was significantly related to integration (8). Specifically, moving from a larger to a smaller laboratory increased autonomy (7), which, in turn, increased the amount of successful integration (8). The most difficult adjustments (8) appeared to arise from unfulfilled demands for autonomy (7). As industrial resocialization proceeded, the discrepancy between the amount of autonomy desired (7) and the amount received (7) tended to diminish, producing higher integration into the laboratory (8).

Aiken, Michael, and Hage, Jerald. "Organizational Alienation: A Comparative Analysis." American Sociological Review 31 (1966): 497-507.

The relationship between two types of alienation -- alienation from work and alienation from expressive relations -- and two structural properties of organization -- centralization and formalization -- were examined in a comparative study of 16 social welfare agencies in a large midwestern metropolis. Ten agencies are private; six are either public or branches of public agencies. All provide rehabilitation and psychiatric services or services for the mentally retarded as defined by the directory of the Community Chest. Size of the agencies varies from 12 to several hundred employees. Interviews were conducted with 314 staff members of the 16 organizations, including: all executive directors and department heads; in departments of less than 10 members, one-half of the staff, selected randomly; in departments of more than 10 members, one-third of the staff, selected randomly. Nonsupervisory administrative and maintenance personnel were not interviewed.

Higher centralization, as measured by increased hierarchy of authority (7), was associated with higher alienation from work (1, alienation; 7, dissatisfaction with amount of authority one is given by board of directors, unsufficient authority to do job well; 4, dissatisfaction with degree of acceptance by superior as a professional expert; 9, dissatisfaction with career expectations) and higher alienation from expressive relations (6b, satisfaction with supervisor and fellow workers). High centralization, as measured by lack of participation in agency decision-making (7), was strongly related to alienation from work (1;7;4;9) and less strongly associated with alienation from expressive relations (6b). Formalization (7, job codification and rule observation) was directly related to both alienation from work and alienation from expressive relations, although the former relationship was much stronger than the latter, indicating that alienation from work is greater in organizations in which jobs are rigidly structured but that rigidity does not have an equally deleterious effect on social relations in the organization. Taken alone, however, rule observation (7, enforcement of rules) was the most strongly related to alienation from expressive relations of all four structural properties examined, when the effect of other variables was controlled.

Aiken, Wilbur J.; Smits, Stanley J.; and Lollar, Donald J. "Leadership Behavior and Job Satisfaction in State Rehabilitation Agencies." Personnel Psychology 25 (1972): 65-73.

In an analysis of data from three different questionnaires completed by a random sample of 230 counselors working for 31 State rehabilitation agencies, it was found that the development of highly humanistic interpersonal relations between the supervisors and counselors (i.e., supervisors being characterized by emphatic understanding, high level of regard, congruence, as well as considerate and interested in relationships with employees) was associated with good working relationships between the supervisors and the counselors (6b).

Alderfer, Clayton P. "An Organizational Syndrome." Administrative Science Quarterly 12 (1967): 440-460.

In a large division of a manufacturing organization, a random sample of 300 blue-collar and white-collar employees at eight levels of job complexity participated in a study of relationships between the organizational variables of job complexity and seniority and satisfaction of employee needs. An interview was followed by administration of a questionnaire (return rate: 90 percent). Job tenure ranged from less than one year to more than ten. The sample included machine operators in a company job enlargement project, who were compared with machine operators doing more narrowly-delineated (less complex) jobs.

Satisfaction with opportunity to use skills and abilities (5) increased as job complexity increased, but satisfaction with respect from superiors (4; 6b, interpersonal relations; 7, superior takes into account subordinate's wishes and desires) decreased as job complexity and seniority increased. The same relationships appeared in the company job enlargement project: compared with machine operators holding narrowly-delineated (less complex) jobs, machine operators holding enlarged (more complex) jobs were more satisfied with opportunities to use skills and abilities (5) and less satisfied with respect from superiors (4; 6b; 7). The operators in enlarged jobs were also more satisfied with pay (3) than were the operators in non-enlarged jobs.

Two explanations are offered for the decay in superior-to-subordinate relationships: the more complex jobs required more interpersonal competence on the part of superior and subordinate, a job demand that was not being met in the company studied. Also, rapid company growth and technological change were sources of career anxiety (9) that put additional strains on superior-to-subordinate relationships (6b).

Alderfer, Clayton P. "Job Enlargement and the Organizational Context." Personnel Psychology 22 (1969): 418-426.

A manufacturing organization initiated a job enlargement program for machine tenders at the same time that it introduced more technically complicated machinery to produce a new product. Selected employees were assigned to the enlarged jobs and participated in a three-part educational program of high school equivalent courses, technical training to operate the new machinery, and training in interpersonal relationships (on which much less time was spent). The program was carried out over a three-year period.

Results of a job attitude questionnaire administered after the program was established compared employees in the enlarged jobs with those in analogous but unenlarged jobs; organization members other than job holders also rated jobs.

Those with enlarged jobs had higher satisfaction with pay (3) and with opportunities to use skills and abilities (5b) and to learn new things from their work (5a) but had lower satisfaction with respect from superiors (6b). Study of the wider range of jobs in the organization showed that satisfaction with opportunity to use skills and abilities (5b) and to learn (5a) tended to increase as a function of job complexity, whereas satisfaction with respect from superiors (4) tended to decrease with greater job complexity. Seniority (longer tenure) also was associated with lower satisfaction with respect from superiors.

In terms of organizational context, lower satisfaction with respect from superiors found in enlarged jobs may have been due to the jobs' being more complex technically and to the employees' being part of an organizational context in which superior-to-subordinate relations tended to decay with time. Continuous-process technology, which requires interpersonal skills on the part of superiors and subordinates to achieve coordination, also may be relevant to the increased diffulty people in the enlarged jobs had with their superiors, as might advancement expectations created by the company's rapid growth.

Alutto, Joseph A., and Belasco, James A. "A Typology for Participation in Organizational Decision Making." Administrative Science Quarterly 17 (1972): 117-125.

Four hundred fifty-four elementary and secondary school teachers participated in a questionnaire survey (return rate: 60 to 75 percent) in a small urban school district and a medium-sized rural district, both in western New York State. "Decisional participation" of teachers was conceptualized as the difference between the number of decisions in which the teacher desired to participate and the number of decisions in which he or she actually participated, on a continuum ranging from decisional deprivation, through decisional equilibrium, to decisional saturation.

Teacher characteristics of sex (female) and age (older) were associated with decisional saturation or decisional equilibrium (7). Positive attitude toward strikes, unions, and collective bargaining (1) was related to decisional deprivation (7). Teaching under a centralized decision-making structure (rural district) was also related to decisional deprivation (7), as was sex (more males) and age (young).

The author concludes that unfulfilled desires for participation in decision making are the basis for much current militancy among professionals but that for the decisionally saturated, a reduction in shared decision making may offer the greatest benefits.

Alutto, Joseph A., and Hrebiniak, Lawrence G. "Correlates of Work Related Tension." Industrial Relations Research Association, Proceedings of the 24th Annual Winter Meeting, December 27-28, 1971, pp. 207-221.

To test correlates of work-related tension among registered professional nurses, questionnaire data were gathered from nursing personnel (N = 472) employed in three separate hospitals in western New York State. Hospitals included community, religious, and county "general hospitals." Questionnaire response was 85 percent of the nursing population in each hospital.

Results indicated that as the age of professional nurses or the number of actual years experience increases, felt job tension (2) decreases. Feelings of anxiety about one's work (2) were inversely related to both degree of interpersonal trust and authoritarianism characteristic of the individual. Those subjects experiencing greatest job-related tension (2) tended to be young, have fewer years of professional service, have lower levels of interpersonal trust, and be characterized by lesser degrees of authoritarianism.

Results refuted the hypothesis that as job tension or anxiety (2) increases, there will be a positive increase in attitudes toward unions and strikes (1) and a corresponding decrease in the evaluation of traditionally more conservative professional associations (1). Job tension (2) proved to be negatively related to attitudes toward strikes by nurses and unions for nurses, and unrelated to evaluations of professional nursing associations. As age and professional experience increased, however, evaluations of strikes and unions became more positive (1), whereas attitudes toward professional nursing associations decreased in favorableness. For nurses, receptiveness to traditionally militant activities (1) appears to increase with progression through a professional life cycle. In addition, favorable attitudes toward strikes and unions (1) were associated with high degrees of professional and organizational commitments (8); this, with other findings, was interpreted as indicating that the greater a nurse's professional or organizational commitment, the greater her willingness to alter organizational structure and functioning through participation in militant activities.

The lower the commitment to organization or profession (8) among nurses, the higher the degree of felt job tension (2), organizational commitment (8) being positively related to both age and professional experience.

Type of employing hospital was found to be related to job tension (2), the greatest tension being experienced by nurses employed in the county hospital and the least by the nurses in the religious hospital. Employees of the county hospital were also characterized by the least positive evaluation of strikes and unions (1), the lowest degree of organizational commitment (8), a low degree of interpersonal trust, and a lower degree of authoritarianism.

Andrews, I. R., and Henry, Mildred M. "Management Attitudes toward Pay." Industrial Relations 3 (1963): 29-39.

Two hundred twenty-eight managers in five San Francisco area firms completed questionnaires designed to test lower- and lower-middle management attitudes toward pay. Of the sample, 58 percent were in lower management, 34 percent were in lower-middle management, and 8 percent were in middle management. Median age was 42.5 years; median monthly salary was $745. Questionnaire answers were classified initially by four demographic variables: management level, education, age, and position (line, staff, or combined line-staff); each of these variables was then retested under separately applied control conditions for the other three demographic variables.

The managers' choice of reference persons for pay comparison (3) varied as a function of management level and amount of formal education. Lower-middle management was more likely to make external comparisons with groups outside the company (3) than were middle and lower management; middle managers tended to compare their pay (3) with those on a lower level, whereas lower managers were more concerned with keeping up with their peers. The more education he had, the more likely a manager was to compare his pay (3) with that of persons outside the company and the less likely he was to compare it to that of his peers within the company.

An equitable pay comparison (3) between oneself and one's subordinate was critically important to satisfaction with pay (3). Dissatisfied members of lower- and lower-middle management were more likely to compare themselves with "lower-level" positions than were individuals who indicated average or above-average pay satisfaction (3). Managers were more likely to be dissatisfied with pay (3) due to too small a pay differential (3) between themselves and their subordinates than over too large a differential between themselves and their boss.

Outside pay comparisons (3) were significant to individual pay evaluation (3): overall pay satisfaction (3) was predicted better by relative pay position (3) within the total sample of all companies than by relative pay position (3) within one's own company. Satisfaction with pay (3) was lower among persons with a relatively good pay level (3) and position in a low-paying company than among persons with average pay (3) and position in a high-paying firm.

Degree of satisfaction with pay (3) showed no clear trend as a function of education, except that those with postgraduate training were least satisfied of the entire sample; nor did

"Management Attitudes toward Pay"
(Continued)

pay satisfaction (3) vary consistently as a function of age or of line versus staff position. Management level was the only demographic variable consistently related to satisfaction with pay (3): higher management level was generally associated with greater satisfaction. Pay satisfaction (3) increased steadily with increase in salary (3). Satisfaction with present pay, however, tended to be inversely related to the amount of pay increase (3) anticipated over the next five years, high anticipation being, in turn, associated with higher educational level, younger age, and higher present pay (3).

The managers varied systematically by age and education in what they wanted from the company in pay and benefits, the two extremes being the young, well-educated manager, who preferred pay (3) to security and other benefits, and the older, less-educated manager, who was less interested in pay (3) and more concerned about security (3) and other benefits such as pension plan and sick leave. The author suggests individual pay-benefit packages, weighted differently for the two groups.

Aram, John D.; Morgan, Cyril P.; and Esbeck, Edward S. "Relation of Collaborative Interpersonal Relationships to Individual Satisfaction and Organizational Performance." Administrative Science Quarterly 16 (1971): 289-296.

A questionnaire, factor analysis, and individual and group performance ratings were used to study degree of collaboration as related to indices of individual need satisfaction and organizational performance among 110 scientists, engineers, and laboratory technicians in 16 product-line groups in a major industrial research and development center. Team collaboration factors identified by factor analysis were: problem solving through support and integration (6b); open, authentic communication (6b); and knowledge-based risk-taking (5b).

Team collaboration (6b; 5b) proved to be positively related to satisfaction of needs for self-actualization (5a; 5b; 4, being fairly evaluated), for professionalism (9, building professional reputation; 5b, contributing to technical knowledge and making use of knowledge and skills; 4, advancing in professional respect of colleagues and chiefs), and for good job conditions (6b, congenial co-workers; 5a, clear work objectives; 3, stable employment and good salary).

The total collaboration score also correlated with status needs (for 9, advancement; 4, fair evaluation of work contribution and association with top executives; 3, earning good salary) but not with satisfaction of these needs.

It is concluded that team collaboration is significantly correlated with both opportunities to meet individual needs and satisfaction of those needs (self-actualization, professionalism, job conditions, and status). Team collaboration is not related significantly to organizational performance, although one collaboration factor, knowledge-based risk-taking (5b), was associated with individual performance indices.

Argyle, Michael; Gardner, Godfrey; and Cioffi, Frank. "Supervisory Methods Related to Productivity, Absenteeism and Labour Turnover." Human Relations 11 (1958): 23-40.

This study was conducted as a statistical comparison, rather than as an experimental or case study. Ninety foremen and their departments, in seven factories, were compared at the same point in time, and statistical relationships between the variables were analyzed.

Low absenteeism (1) was found to be related only to the Democratic supervisory style. No significant relations were found between supervisory style and labor turnover (1). There was also an association between the size of a department and absentee rates, larger departments having lower rates (1). The direction of causation, however, were not clear.

Argyris, Chris. "The Individual and Organization: An Empirical Test." Administrative Science Quarterly 4 (1959): 145-167.

Subjects of the study were 300 employees working in two separate divisions of one firm. One division, department "A", included primarily employees whose jobs represent highly-skilled crafts, in which an individual produces a whole, or almost-whole, highly-complex product. Department "B" included primarily unskilled and semiskilled jobs. Formal organization policies, leadership, and controls were the same for both departments, the main difference between them being the technology. Jobs in department B were composed of automatic and semiautomatic tasks in which the employee performed primarily machine-feeding tasks and very little creative work. In department A , most of the work was performed by hand; when a machine was used, it was nevertheless still the skill of the craftsman that was the crucial variable.

Employees in department A , performing highly-skilled craft jobs and producing whole products, expressed a stronger desire to produce high-quality work and were more concerned about the quality of their products (8) than were employees in department B , doing less-skilled, machine-feeding tasks. Employees in department A also expressed a greater involvement and interest in their work (8), tended to place less emphasis on the importance of money as a reward for their work (3), and expressed a greater desire for variety and challenge in their work (5) and a far greater sense of self-worth (4) than employees in department B . Employees in "A" reported making significantly more friends at work than did employees in "B" (6b) and also reported engaging in more creative activities outside of work than did employees in department B (10b).

Aronoff, Joel. "Psychological Needs as a Determinant in the Formation of Economic Structures: A Confirmation." Human Relations 23 (1970): 123-138.

On St. Kitts Island in the British West Indies, 65 sugar cane cutters working on a privately-owned estate were interviewed and observed. Cutters from one village only were sampled, to eliminate possible cross-cultural differences among workers from other villages on other estates. All cutters were descendants of Negro slaves.

In 1972, the cane cutters were working in 11-man gangs, with a totally authoritative supervisor who set working pace and supervised work quality (7). Pay was pooled: the men in a gang shared the gang's pay depending on the number of days worked that week, despite some having worked harder than others. These conditions resulted in men feeling unable to do tasks without the supervisor and curtailed individual initiative (5). Gang members distrusted each other (1; 6b) and there was no group solidarity (6b). In 1965, a new payment scheme was introduced--paying on the basis of the amount of work done by each gang each day--which resulted in individual workers taking responsibility for their own efforts (7).

The following year, a change in sugar cane processing technology made possible an added change in the pay system: a "field man" was hired to check on each worker's productivity, and the pay base was changed so each man was paid on the basis of his own productivity. The 1966 scheme resulted in individual workers taking greater initiative and responsibility (5; 7) and in group solidarity among cutters (6b) to the extent that they now gathered in the village to walk to the fields together and to return to the village after work (10b).

Atchison, T. J., and Lefferts, E. A. "The Prediction of Turnover Using Herzberg's Job-Satisfaction Technique." Personnel Psychology 25 (1972): 53-64.

Questionnaire data was re-analyzed for a random sample of 52 male Air Force pilots still on duty compared to 70 Air Force pilots who had voluntarily quit within the last three years.

It was found that Herzberg's hygiene factors (extrinsic; dissatisfiers) were associated more with the decision to participate (8) than were motivator factors (intrinsic; satisfiers). Higher hygiene scores were associated with a greater propensity to leave the Air Force voluntarily (1).

In a special subset analysis of fighter pilots, it was found that a high need-for-achievement (McClelland) score was associated with the retention of participation (8) for fighter pilots, whereas it was not associated for the Air Force pilots generally.

Bachman, Jerald A. "Faculty Satisfaction and the Dean's Influence: An Organizational Study of 12 Liberal Arts Colleges." Journal of Applied Psychology 52 (1968): 55-61.

Faculty (N-685) of 12 liberal-arts colleges were subjects of a questionnaire study (response rate: 60%). The sample included holders of bachelor's, master's, and Ph.D. degrees.

Using a partial correlation rather than simply a zero-order correlation to insure the elimination of any phenomenological or halo effect, only referent power as the basis of the dean's influence (based on personal admiration) was significantly correlated with perceived minimum conditions for leaving (1) as viewed by faculty members.

Banks, Olive, and Mumford, Enid. "Secrecy and Strain in an English Firm." In Office Automation: Administrative and Human Problems, edited by W. H. Scott, pp. 19-31. Paris: Organization for Economic Co-operation and Development, 1965.

In a British manufacturing firm, 34 clerks were subjects of an investigation using observation, interviews, and a questionnaire.

A change to office automation (electro-data processing) was associated with the following changes in the attitudes of the clerks in the accounts department:

The youth of the clerks in the firm, the elementary nature of their duties, the lack of promotion opportunities (9), and the length of time the Hollerith (old system) had been in use were all associated with enhancing the prestige of the new computer work (4). However, the new computer work was associated with feelings of less control over the ordering of the day's work (7) and less opportunity for promotion (9).

The policy of secrecy adopted by the management created difficulties for the programmers in establishing effective working relations with those in the section likely to be affected (6b). The secrecy, along with technical delays and faulty input data, resulted in the programmers experiencing serious strain (2), which was exacerbated by pressure from management.

Finally, the failure to resolve these problems resulted in a breakdown of relations with the supplier of the computer and a decision by the firm to order a new model elsewhere.

Baumgartel, Howard, and Sobol, Ronald. "Background and Organizational Factors in Absenteeism." Personnel Psychology 12 (1959): 431-443.

Correlates of absenteeism were investigated using company data on absenteeism among all non-supervisory employees of a major airline during a full calendar year. Eleven major airline locations were grouped into four sizes: smallest, small, large, and largest, the range being from 172 to 3,205 employees.

The findings supported the hypothesis that as unit size increases, absenteeism increases (1). Among white-collar men and women and among blue-collar women, employees who were older, had longer service, and were higher-paid tended to have higher absenteeism (1). For blue-collar men, longer length of service and higher job status were associated with lower absence rates (1).

Beattie, Christopher, and Spencer, Byron G. "Career Attainment in Canadian Bureaucracies: Unscrambling the Effects of Age, Seniority, Education, and Ethnolinguistic Factors on Salary." American Journal of Sociology 77 (1971): 472-491.

National survey data was used in a study of 296 middle-level officers, aged 25-45, in five bureaucratic departments of the Canadian government. Tenure of the sample ranged from 6 to 18 years; education ranged from secondary school through advanced (doctoral) college degrees.

Results indicated that in a bureaucratic organization, age, education, and tenure are associated with salary level (3, pay; 9, position). Among older men (but not among younger men), the association is stronger for ethnic-majority members than for ethnic-minority members.

Beckhard, Richard. "An Organization Improvement Program in a Decentralized Organization." Journal of Applied Behavioral Science 2 (1966): 3-25.

Management development training was initiated in a medium-sized concern that operates 26 hotel properties in the United States, Canada, the Caribbean, and Great Britain. The period covered by the report is 1958-1963. At the time the improvement program started, the company managed five hotels with about 2,000 employees. Today, its activities include hotels, motor hotels, and motor lodges, with about 7,000 employees.

The involvement of the president and top-line and staff management and their immediate subordinates in management development training, management school (a one-week management workshop using laboratory training methods), technical seminars, and counterpart meetings were all associated with low management turnover (1) in a highly mobile industry as well as with the promotion into higher positions of more than one hundred managers (9); also, management reported much more concern for profit and costs on the part of rank-and-file employees (8), which shows up in such ways as reduced breakage, less waste in handling laundry, and the like.

Beer, Michael. "Need and Need Satisfaction Among Clerical Workers in Complex and Routine Jobs." Personnel Psychology 21 (1968): 209-222.

In a study of 129 clerical workers (mostly females) in a large insurance company, it was found that there was no substantial difference in need satisfaction patterns (5, self-actualization; 7, autonomy) between clerical employees in routine positions (key punch operators, utility typists, and clerks) and those in more complex clerical jobs (processing claims, follow-up, correspondence, and credit arrangements).

Bell, Gerald D. "Determinants of Span of Control." American Journal of Sociology 73 (1967): 100-109.

Interviews, informal observation , and questionnaires were used in a study of 186 male and female full-time, day-shift employees of a hierarchically-organized community hospital. Employees included both white-collar administrative and blue-collar service occupations; 30% were nurses.

Highly complex subordinate tasks were associated with a decreased span of control (6b). Highly complex supervisory tasks were associated with a decreased span of control (6b). Span of control was not associated with closeness of supervision (7).

Ben-David, J. "The Professional Role of the Physician in Bureaucratized Medicine: A Study in Role Conflict." Human Relations 11 (1958): 255-274.

Interviews with 78 doctors were conducted in 1952-53. The cases constitute random samples of three distinct populations. The first set of 26 doctors had at least five years of experience working in the Sick Fund in an Israeli town. A sample of the same size in the same town, drawn from all the other doctors having at least five years of experience, comprised the second set. The final set of 26 doctors was drawn from a national sample of the graduates of the first two courses of the Hebrew University Medical School. In addition, an open-ended questionnaire was completed by all of the doctors as part of the exploratory study.

The doctors felt that working within the organizational confines of the Sick Fund (bureaucratic) led to a lack of independence and a lack of power, in that the final responsibility for the patient rests not with the doctor but with the organization (7) and it is not within the power of any individual doctor even to refer a patient to a particular specialist or hospital (5b; 7). Also, this transfer of responsibility from the doctor to the institution (7) was perceived by the doctors as a loss of status (4). The doctors who worked in the regular hospitals had opposite perceptions: they felt that the hospitals did allow them to carry out satisfying and interesting work (5) and were generally highly identified with their hospitals (8). The doctors felt that there were no difficulties concerning the patients, because they created the relationship and the patient was entirely in their hands (7).

Bennis, W. G.; Berkowitz, N.; Affinito, M.; and Malone, M. "Authority, Power, and the Ability to Influence." Human Relations 11 (1958): 143-156.

Data were collected on 90 nurses working in six outpatient departments, units attached to a large, municipally-supported hospital, a large private hospital, two smaller private hospitals, and a denominational hospital; one department had only a loose connection with a major hospital unit. All six departments were located in a large eastern city. Data were collected in three stages, involving an initial questionnaire, a second, more elaborate questionnaire answered individually in a group setting, and, finally, a two-hour individual interview.

Study results showed that in those hospitals that had the most effective reward systems (3 , the degree to which the rewards that are most likely to be given are congruent with those that are hoped for by the subordinates), the ability of the supervisors to influence their subordinates (7) was greater than in those hospitals that had less effective reward systems. The effectiveness of the reward structure was also associated with the subordinates' desire to continue working in the organization (1). The most effective reward system (3) was associated with the highest desire to remain on the job (1). A separate projective test, however, showed that nurses working in the most effective reward settings were most inclined to project that "the best nurses would leave their jobs" (1).

Bishop, Ronald C., and Hill, James W. "Effects of Job Enlargement and Job Change on Contiguous but Nonmanipulated Jobs as a Function of Workers' Status." Journal of Applied Psychology 55 (1971): 175-181.

Interviews and a questionnaire were used to collect data from 48 men and women doing nut and bolt sorting or assembly work in a workshop for the rehabilitation of the mentally and physically handicapped. Jobs were contracted with local industry; quality and quantity standards and supervisory conditions were in accordance with those in similar jobs in industry. Average I.Q. of subjects was 75; average tenure, two years.

Both job enlargement and job change resulted in less worker tension (2), as measured by anxiety differential, and also resulted in an increase in perceived status (4) as compared to workers who did not undergo job change. Effects of job enlargement were not differentiated from those of job change.

Blain, Isabel, and Keohane, Jennifer. "One Company's Management Structure Before and After a Change." Occupational Psychology 43 (1969): 23-38.

Senior managers of a chemical manufacturing unit of a large British enterprise were interviewed and completed a questionnaire before a major change in organizational structure and six years later, after the changes were established. At the time of the first study the organization was a "mechanistic" hierarchical stereotype. After the reorganization , authority lines were simplified and clarified, accompanied by increased communication channels between the unit chief and other managers. Hierarchical levels increased from five to six, but greater delegation of authority and other changes shortened chains of command. Positions were reallocated to clarify operational relationships. Fewer people were at the upper hierarchical levels and more were at lower levels. There were many fewer managers after the change who were officially responsible to more than one supervisor. Many more managers had written job descriptions; the grading and salary system was changed so that the median salary rose by 33 percent (3); and formal management training was available and encouraged.

In the study following the changes in organization structure, especially shortened chains of command, managers felt communications had improved markedly, so that they knew as soon as possible about things that would affect their work (7).

There was an increase of 5 percent or more in managers giving favorable responses regarding the challenge and variety of their work (5); freedom from uncertainty (1, normlessness); rules and regulations not excessive, control not arbitrary, and freedom to run one's job as one liked (7); feeling important in the organization and doing something worthwhile (4); and company offering a good standard of living (3).

Fewer managers than before the change felt that access to colleagues was adequate for the needs of their jobs (7), but reported improvements far outweigh negative effects.

Blake, Robert R.; Mouton, Jane S.; Barnes, Louis B.; and Griner, Larry E. "Breakthrough in Organizational Development." Harvard Business Review 42 (1964): 133-155.

Six hundred managers in a large plant in Texas participated in managerial grid seminar training, in which training groups were composed of members of different organizational groups. All participants returned to organizational groups in which other members had been similarly trained. Questionnaires were administered before and ten months after completion of training. Information included description of self and of boss (who was also trained).

After training, increases were noted in the following: higher quality decisions, novel suggestions, self-expression (5); self-awareness and feelings of competence (4); superior informs, listens to, and "levels" with subordinates; greater group effort, lively group discussion, awareness of others' viewpoints, more meetings held (6b). There was increased support for racial integration; a scholarship for black children was initiated; and implementation of the Civil Rights Act was urged (10c).

Blakelock, Edwin. "A New Look at the New Leisure." Administrative Science Quarterly 4 (1960): 446-467.

In a study of relationships between shift versus non-shift work and the propensity to engage in various kinds of extra-work activity, questionnaire and interview data were collected from roughly comparable groups of shift and non-shift workers in a large oil refinery. The community in which the refinery is located is outstanding for its large number of well-supported voluntary organizations and for the broad social bases of their support. In addition, there are ample opportunities for such activities as swimming, sailing or fishing. Most of the housing is single-family dwellings with large yards, which provide opportunity for work around the house.

Shift workers appeared to participate less extensively than non-shift workers in inflexible activities, such as being an attending member or officer of a voluntary organization (10c). In activities of intermediate flexibility, such as visiting friends and relatives (10a), shift workers differed very little from non-shift workers. Shift workers participated to a greater extent than did non-shift workers in flexible activities such as home gardening and improvement (10b).

Blau, Peter M. "The Hierarchy of Authority in Organizations." American Journal of Sociology 73 (1968): 453-467.

Interviews and questionnaires were used in a study of managerial and clerical operating staff in 156 public personnel agencies and senior managers in 254 government finance departments.

In public personnel agencies, high expertness of operating staff (i.e., whether operating staff was required to have a college degree with specified job-related major) was associated with small span of control (7) and high managerial ratio.

In government finance departments, expertness of staff was associated with a narrower span of control (7) for first-line managers and a wider span of control for middle managers. Expert qualifications were also associated with broader responsibilities of operating employees (7; 5b). It was additionally shown that if much of the staff is college-trained, managers are less likely to spend their time in direct supervision of operating employees (7) and are therefore able to spend more time on professional work of their own (5b).

Blood, Milton R., and Hulin, Charles L. "Alienation, Environmental Characteristics, and Worker Responses." Journal of Applied Psychology 51 (1967): 284-290.

Blue-collar (N = 1,390) and white-collar (N = 511) workers in 21 different plants in the eastern half of the United States participated in a questionnaire study.

Results showed that workers in a community which fosters "integration with middle-class values" are inclined to plan for retirement, which they value as important (11), whereas a community which exhibits alienation from middle-class values does not produce pro-retirement values and plans in its workers (11).

Boer, Ronald H., and Swertloff, Arnold B. "Work Shift, Occupational Status and the Perception of Job Prestige." Journal of Applied Psychology 53 (1969): 227-229

Supervisory and non-supervisory personnel on day and night work shifts in a large state mental hospital and an electronics plant responded to a questionnaire (Mishler and Tropp's 1956 status scale). The hospital sample included 24 nurses and 72 attendants; the electronics plant sample included 37 engineers and foremen and 37 assembly-line workers.

Non-supervisory night workers (hospital attendants and assembly-line workers) attributed less prestige to their own and co-workers' jobs (4) than did their counterparts on the day shift. Among supervisory personnel (registered nurses, engineers, and foremen), no difference was found between the ratings of day and night workers.

Bolman, Lee. "Laboratory Versus Lecture in Training Executives." *Journal of Applied Behavioral Science* 6 (1970): 323-335.

Four different sessions of an educational program for business executives were studied to compare effects of laboratory human relations training (T-group) to effects of a lecture-discussion approach to interpersonal relations in organizations. Participants in the six-week sessions were upper and upper-middle level managers, all male, and mostly from organizations in the United States and Canada, although approximately 10 percent were from foreign countries. Two of the four sessions studied included one week of laboratory training and were designated "experimental." In the two control sessions, one week was spent on the topic of interpersonal relations, using lectures, group discussions, and recordings instead of laboratory training. Otherwise, the other five weeks were similar for all four sessions. One experimental and one control session were held the first year (Study I); one experimental and one control session the second year (Study II). Data were gathered by questionnaires completed at various times in the program and from tape recordings of small-group meetings.

Results indicated that participants in the two different programs did not differ initially in their reported ability to cope with emotions in a group setting (6b) but that participants in the laboratory (T-group) program perceived themselves as improving substantially in coping (6b), whereas participants in control (non-laboratory) sessions saw no change. The T-group participants, however, also saw their comfort with emotions (6b) as increasing only during the laboratory program; afterward, their comfort (6b) tended to decrease.

There were no substantial differences between laboratory and control participants in perceived receptivity to information and influence from others (6b; 7).

In the first year of the study, participants in laboratory training showed a substantial increase as a result of the program and a slight decrease during the remainder of the program in their reported confronting of interpersonal issues and emphasis on mutual influence in a business context (6b; 7), whereas control participants showed no change. In the second year of the study, there was little difference between laboratory and control groups on measures of belief in the effectiveness of confronting interpersonal issues (6b); in both programs, the interpersonal relations phase (whether laboratory or lecture-and-discussion) produced a moderate increase and the rest of the program a slight increase. On measures of emphasis on formal power (7), both sessions showed a decrease, but changes were greater for the laboratory session.

"Laboratory Versus Lecture in Training Executives"
(Continued)

In follow-up study of participants' behavior after returning to their organizations, there was little difference in self-ratings between the two groups, although laboratory participants reported more change in awareness of human behavior, tolerance of new information, and comfort in interpersonal situations (6b). Data from business associates, however, indicated no noticeable difference between laboratory and control groups.

Bonjean, Charles M., and Grimes, Michael D. "Bureaucracy and Alienation: A Dimensional Approach." Social Forces 48 (1970): 365-373.

Interviews were conducted with 228 employees of two Gulftown plants (108 managers, 120 blue-collar workers) and with 104 Gulftown businessmen. The random probability sample was drawn from the Gulftown city directory lists of salaried managers, hourly-paid workers, and independent businessmen.

The generalization that there is a direct relationship between bureaucratization and alienation (1) is modified by examining the relationships between five bureaucratic characteristics (general authority, procedures, specialization, written rules, and impersonality) and six forms of alienation (1)--general, isolation, normlessness, powerlessness, anomia, and self-estrangement--among samples of hourly-paid workers, salaried managers, and independent businessmen. The data did not support the generalization of a direct relationship between bureaucratization and alienation, but some patterns of relationships emerged. Bureaucracy appeared to be directly related to alienation (1) among blue-collar workers but not among salaried managers or independent businessmen, and the authority dimension of bureaucracy was more closely related to measures of alienation (1) than other bureaucratic characteristics among hourly-paid workers. The form of alienation (1) most closely related to bureaucratization among hourly-paid workers was self-estrangement.

Bowers, David G. "Self-Esteem and the Diffusion of Leadership Style." Journal of Applied Psychology 47 (1963): 135-140.

Self-esteem of the lower-level supervisor (the foreman) was investigated as a mediating variable in leadership climate -- the similarity of supervisorial styles between adjoining hierarchical levels within an organization -- in the context of an organization in which no formal human relations training had taken place. Data were obtained by questionnaires administered to 17 foremen and their 330 male subordinates in two plants of a company manufacturing packaging materials.

The findings confirmed the hypothesis that if a foreman's superior expresses disapproval of the foreman's job efforts (is non-supportive), the foreman's self-esteem (4) is decreased, which, in the given organizational context, leads to the foreman's attempting to redeem himself temporarily and make the situation tolerable by employing a group approach (6b); that is, calling his subordinates together and taking up problems with the group as a whole in the hope of raising his self-esteem, rather than for purposes of involving them in decision-making and problem-solving. The foreman's low self-esteem (4) also was found to lead to his perceiving that his subordinates share the superior's unfavorable image (6b), which, in turn, results in the foreman's further alienating himself from his subordinates and therefore involving them less in decisions (7) as well as behaving less considerately toward them (6b).

Boyd, J. B. "Interests of Engineers Related to Turnover, Selection, and Management." Journal of Applied Psychology 45 (1961): 143-149.

The interests expressed through the Strong Vocational Interest Blank (SVIB) by newly-hired engineers who had left a public utility firm after a short period of employment were compared with interests expressed by engineers who remained for a longer period. Subjects included a validation group, a cross-validation group, and a high achievement group. The validation group consisted of 157 engineers, median age 24, employed over a two-year period (1953-55) and enrolled in a vocational training program lasting 18 to 24 months; 30 had left by the end of March 1956. The cross-validation group consisted of 70 men enrolled in the same program in 1966 and 1957, 13 of whom left within their first two years of service. The high achievement group consisted of 99 engineers who had progressed relatively quickly to senior status in their organization and were studied to determine whether those who leave or those who stay are more alike in interests to those who presently fill key posts.

Four groups of interest items were found to distinguish engineers who left the service of the company within the first two years (1) from engineers who stayed longer. The items were Literary-Artistic, Repetitive-Detail, Mechanical-Technical, and Competitive-Persuasive. The Musician, Mathematician, Dentist, and Engineer Scales of the SVIB were found to be associated with longer tenure, whereas the Lawyer, Advertiser, Real Estate Salesman, Sales Manager, Life Insurance Salesman, President, and Occupation Level scales were found to be associated with short tenure (1).

It was possible to separate those likely to leave the organization (1) into two groups: one that could be "safely screened out" at time of application, the other that was similar in interests to the company's leaders; that is, interested in mechanical and technical pursuits.

Braunstein, Daniel N. "Interpersonal Behavior in a Changing Organization." Journal of Applied Psychology 54 (1970): 184-191.

In a large Veteran's Administration hospital, field observation, structured interviews, a questionnaire, and tests were used to study effects of decentralization, in which staff was reorganized into three treatment teams (units), each having similar professional staff and patients. Control over professional treatment services was shifted from the central hospital administration to coordinators of each unit. Subjects of the study were the staffs of the three new units, each consisting of 15 unit coordinators (physicians, psychologists, social workers, supervisory nurses, and rehabilitation specialists), 12 ward nurses, and 27 nursing assistants.

Unit members' perceptions of their own interpersonal behavior showed that agreement with the changeover was related to perception of a high number of interpersonal contacts (6b). Perceived interpersonal contacts also differed by job level. Educational level was related to the number of unit problems reported and to negative evaluations of interhospital communication (1). There was no evidence for stable emergent organizational characteristics (behavioral change over time).

Brown, Michael E. "Identification and Some Conditions of Organizational Involvement." Administrative Science Quarterly 14 (1969): 346-355.

Eight hundred thirty-four skilled and professional employees in 26 branches of the Tennessee Valley Authority participated in a survey concerned with correlates of worker identification with the organization (8).

Identification (8) was positively correlated with task autonomy and degree to which individual workers determine their own time limits (7); with opportunities to achieve and use skills (5), with anticipated access to the organizational hierarchy (7), and with the presence of a structural link (the cooperative conference) that relates the organization to its members.

Identification was negatively related to role conflict, role overload, routinization, bureaucratization (7), degree to which supervisors initiate structure (7), and competing sources of identification: cohesive work groups (6b), task interdependence, and union concern. There was a weaker negative relationship between identification and organizational size and complexity, which are associated with increased unit autonomy and consequent reduction of identification with the larger organization.

Bunker, Douglas R. "Individual Applications of Laboratory Training." Journal of Applied Behavioral Science 1 (1965): 131-148.

Educators and school administrators met in 60 "stranger" T-groups in Bethel, Maine. Each individual was matched with a control of similar age, background, and occupation.

Experimental group in two parts: first group had three-week training with emphasis on reconciling new learning with expectation of external environment. Second group had two-week training without this emphasis. Members of groups nominated three describers in their occupational environments.

As compared with controls, 77 percent of first experimental group were described by at least two describers as having made changes 10 months later; 58 percent of second experimental group was so described; control group improved slightly. For the trained (experimental) groups, significant changes occurred in self-confidence (4); express stronger feelings, take stand on issues (5a); tolerate new information, express new ideas, experiment with new behaviors (5b); accept others, relate to and involve others, create interdependence with others (6b).

Carpenter, Harrell H. "Formal Organizational Structural Factors and Perceived Job Satisfaction of Classroom Teachers." Administrative Science Quarterly 16 (1971): 460-465.

Six public school systems, randomly selected from 10 within a 60-mile radius of Houston, Texas, were classified into three structural types--tall, medium, or flat--and effects of structure on satisfaction of teachers' sociopsychological needs were tested with a questionnaire administered to 60 randomly selected teachers, 20 from each of the three structural types. All teachers sampled were similar in terms of salaries, fringe benefits, and other economic factors.

Teachers in flat organizations perceived higher job satisfaction than did their counterparts in tall and medium organizations in three areas related to autonomy needs (7): perceived opportunity to participate in setting school goals, perceived professional authority associated with the position, and prestige in the community (4).

The study gave evidence that the more administrative levels between higher administrative positions and the lower levels of the organizational hierarchy, the more the lower-level positions are perceived by the incumbents to be restrictive, regimented, and formalized (1).

Centers, Richard, and Bugental, Daphne E. "Intrinsic and Extrinsic Job Motivations among Different Segments of the Working Population." Journal of Applied Psychology 50 (1966): 193-200.

Person-to-person interviews concerning job motivations were conducted with 692 employed adults, who constituted a selected cross-section of the working population of a major urban area (greater Los Angeles). Sampling was limited to persons who were not self-employed.

As was predicted, individuals at higher occupational levels placed a greater value on intrinsic job factors (5b, opportunity to use skill or talent; 5, interesting work, work that yields a feeling of satisfaction) than did individuals at lower occupational levels, who placed greater value on extrinsic job factors (3, pay and security; 6b, good co-workers). All three intrinsic job components (5b;5) were more valued among white-collar groups, including professional, managerial, clerical, and sales occupations, whereas all three extrinsic job components (3;6b) were more valued among blue-collar groups, including skilled, semi-skilled and unskilled workers.

There were no overall sex differences in the overall value placed on intrinsic or extrinsic job components, but there was a greater preference among female than among male respondents for "good co-workers" (6b) and a greater preference among male respondents for the opportunity to use skill or talent (5b). Men and women did not differ significantly in overall occupational level.

"Clerical or sales" workers and skilled workers were found to be very similar in job motivations. The biggest shift in values occurred between "professional-managerial" and "clerical-sales" (that is, between higher-and lower-level white collar jobs) and between "skilled" and "semi-skilled and unskilled" (between high-level and low-level blue-collar jobs).

Childers, Grant W.; Mayhew, Bruce H., Jr.; and Gray, Louis N. "System Size & Structural Differentiation in Military Organizations: Testing a Baseline Model of the Division of Labor." American Journal of Sociology 76 (1971): 813-831.

Documents and records of 13 government defense ships, 9 Coast Guard offices, and 15 lifeboat stations were sources of study data. Employee population varied from 6 to 181 men for the ships to between 2 and 52 men for the offices and stations.

Larger organizations were found to have greater structural differentiation, in that they were subdivided into more occupational roles, but they were more internally homogeneous due to having a higher ratio of people to roles (6b) than the smaller organizations.

Clark, A. W. "Patient Participation and Improvement in a Therapeutic Community." Human Relations 20 (1967): 259-273.

Two separate questionnaire surveys were conducted among doctors, nurses, and patients in an Australian government therapeutic community. In the first survey, the sample group numbered 45; in the second survey, the sample numbered 69.

The extent to which a patient participates in his own program for improvement (7) was found to be strongly associated with improvement in his mental health (2).

Conant, E. H., and Kilbridge, M. D. "An Interdisciplinary Analysis of Job Enlargement: Technology, Costs, and Behavioral Implications." Industrial and Labor Relations Review 18 (1965): 377.

A midwestern home laundry firm over a period of years had attempted to improve employee attitudes toward work by emlarging jobs: progressively transferring work from assembly lines to single-operator work stations. Over a five year period, 14 bench assembly jobs were established, 13 of them from elements previously performed on assembly lines. Attitudes and preferences of workers having experience on both line and bench work were examined by questionnaire.

Social interaction opportunities (6b) and actual work interaction (6b) showed sharp reductions in bench work, largely associated with the creation of independent jobs. Enlarged bench jobs were preferred (8) two-to-one over assembly-line jobs; in half of the cases, the stated reason for liking bench jobs was preference for self-pacing (7). All attributes of the enlarged jobs were liked (8): increased number and variety of tasks (5a), self-determination of pacing (7), increased responsibility for quality (7), increased discretion in work methods (7), and completion of a part- or sub-assembly. All attributes of the line jobs were disliked (1), except for the opportunities for social interaction (6b) and the short learning time. Where line work was preferred, no single reason was given; rather, it was less disliked than bench work (1).

Cooper, Robert, and Payne, Roy. "Extraversion and Some Aspects of Work Behavior." Personnel Psychology 20 (1967): 45-58.

In a study of 113 female machine operators working in a machine-paced packing department of a tobacco factory, it was found that those workers who exhibited a higher degree of extraversion, as measured by the A scale of the Eysenck Personality Inventory, had a shorter length of service (1, were more likely to stop working for the company).

Corey, Lawrence G. "Psychological Adjustment and the Worker Role: An Analysis of Occupational Differences." Journal of Applied Psychology 43 (1959): 253-255.

This study investigated whether the personal and social adjustment of nonmanual and manual employees outside work was equally dependent upon their role of worker. Three hundred and one subjects, all between the ages of 55 and 65 and all employees of a midwestern oil refinery, were divided into two occupational statuses, nonmanual and manual workers. The nonmanual group included 116 managerial, supervisory, professional-technical, and clerical-sales personnel; the manual group included 185 skilled, semiskilled, and unskilled workers. The groups were treated as separate populations for the analysis. Data were obtained by administering a questionnaire, completed anonymously by the subjects.

The personal adjustment (10, satisfactory feelings about oneself) of nonmanual employees was not related to their activity in the role of worker. The maximum degree of positive personal adjustment for manual employees, however, varied directly as a function of increasing competency in their performance of the work-role.

The maximum social adjustment (10, group participation versus social isolation) of both nonmanual and manual employees varied directly as a function of increasing competency in their performance of the worker role.

It is concluded that the worker role, as a source of psychological support for the older employee, is directly associated with the personal adjustment (10) of the manual laborer, whereas, for the nonmanual employee, there is little or no association between personal adjustment and the work-role.

Costello, Timothy W.; Kubis, Joseph F.; and Shaffer, Charles L. "An Analysis of Attitudes toward a Planned Merger." Administrative Science Quarterly 8 (1963): 235-249.

A questionnaire was mailed to 116 middle-management officers and non-officers of a bank that was planning to engage in a merger with another bank. The managers received the questionnaire a month after both banks had announced the planned merger, to be effected some four to eight months later. Eighty-six of the managers (about 75 percent) returned anonymously-completed questionnaires.

Results indicated that favorable attitudes toward the merger (8) were related to older age, lack of previous success in the organization, high morale, and high F-scale scores (authoritarianism). Conversely, unfavorable attitudes toward the merger seemed to be principally associated with younger age, a pattern of success in the organization, low current morale, and high F-scale scores (authoritarianism).

Crain, Robert L. "School Integration and Occupational Achievement of Negroes." American Journal of Sociology 75 (1970): 593-606.

Survey interviews were conducted with 1,231 Negro residents of metropolitan areas of the northern United States. The sample included both males and females, aged 21 to 45 years, with educational backgrounds ranging from primary-school-only through college graduation, employed in a broad spectrum of occupations.

American Negroes who attended integrated public schools have better jobs, occupational status (9), and prestige (4), as well as jobs which provide a greater dollar income (3), than do those who did not attend integrated public schools. There was evidence that the more varied social contacts experienced by those who attended integrated schools were a more important factor in later success than the better education obtained.

Crane, Diane. "The Academic Marketplace Revisited: A Study of Faculty Mobility Using the Cartter Ratings." American Journal of Sociology 75 (1970): 953-964.

University records and documents were analyzed in a study of 780 young college lecturers and assistant, associate, and full professors in 20 public and private colleges and universities of varying size. Subjects were of both sexes; all had Ph.D. degrees.

The prestige of the university from which one received his doctorate, rather than scholarly performance, was found to be associated with being selected for a position in a leading academic department (9).

Crockett, William J. "Team Building -- One Approach to Organizational Development." Journal of Applied Behavioral Science 6 (1970); 291-306.

The first team-building meeting between supervisor and subordinates ever held in the United States Department of State is described by a participant who was then Assistant Secretary of State for Administration. Eleven members of the State Department participated in the organizational development meeting, with two consultants.

Organizational development (team building) was associated with improved capability to work together as a group (6b) and greater commitment to goals (8).

Culbert, Samuel A., and Renshaw, Jean R. "Coping with the Stresses of Travel as an Opportunity for Improving the Quality of Work and Family Life." Family Process 11 (1972): 321-337.

In a large, diversified organization, heavy business travel by members created problems for the travelling personnel, their families, and the organization. The members of one research unit spent 70 percent of their time away from home from May to mid-September and a lesser amount of time away during the rest of the year. It was decided to apply an organizational development program already underway in the company to the seven married men who comprised the units' professional research staff and to their wives, in a pilot project that utilized a two-day seminar for the couples. The primary aim was to apply the team approach to the stresses of travel, developing collaborative resources for coping with the stresses.

Six couples participated; the seventh man did not, having expressed ambivalent feelings about his marriage. The husbands were aged 26 to 38; all but one held university degrees and two held advanced degrees. Wives ranged in age from 23 to 35; all but one had children and all but one had university degrees. The participating families followed conventional marriage role patterns, valued marriage and religion, and identified with the company.

Research was conducted concurrently with the project. Members of each couple were interviewed and completed a questionnaire at three separate times: prior to the seminar, just after the seminar, and three months later, at the conclusion of the peak travel season. The same questionnaire was also administered to a control group of travelers from other units and their wives.

Measurements registered by the participants in the husband-wife seminar immediately after the seminar and three months later were compared with those registered by controls; results showed that participants had made considerably more changes than controls, two-thirds of the changes being in the direction of improved husband-wife problem-solving effectiveness (11). Participating couples also felt better able to cope with travel stresses (11) than before the seminar. For most participants -- both husbands and wives -- the intensity of travel stresses (10;11) had decreased in areas of personal control such as "loneliness" and "concern for spouse."

In increasing couples' problem-solving resources and abilities to cope with travel stresses (11), the seminar resulted in couples' developing empathy for each other's pressures, jointly engaging in personal planning that reduced travel stresses, and ultimately having more positive experiences when separated by travel (11). Wives began to see themselves as able to function more autonomously and to reach outside the home (10c). Both husbands and wives reported themselves in higher spirits (2) during the travel season, in contrast to the previous year.

"Coping with the Stresses of Travel as an Opportunity for Improving the Quality of Work and Family Life"
(Continued)

Couples' living styles also changed (11) in various ways associated with their abilities to discuss problems more openly and engage in collaborative planning (11).

The husband-wife changes (11) induced by the seminar carried over to work in various areas of effectiveness, including dealing with work pressures more effectively, better relationships with co-workers (6b), and more collaborative decision -making with subordinates (7;6b). One man, who had been ready to leave the company (1) due to travel-connected family stresses, decided to stay.

Davis, Louis E., and Canter, R. R. "Job Design Research." Journal of Industrial Engineering 7 (1956): 275.

Conditions under which changes in job content could bring about improved productivity were studied in a manufacturing department of a unionized West Coast firm producing small plastic pharmaceutical appliances. The product had been made on an assembly line, where 29 of the department's 35 women performed narrowly delimited, minutely divided operations. Average tenure of these workers was four and one-half years when job modifications were introduced. A similar department in the company was used as a control group.

Two experimental job designs were compared with the pre-existing Line Job Design: Group Job Design, in which the conveyor and pacing were eliminated and workers rotated among nine individual stations using a batch method of assembly; and Individual Job Design, in which all nine operations formerly accomplished by separate workers spaced along the assembly line were combined into one job that also included final inspection and materials securing and was performed by workers at individual work stations.

Results supported the hypothesis that job enlargement -- the Individual Job Design, incorporating greater task variety and responsibility for methods, quality, pacing, and product completion (7) -- resulted in higher productivity and quality and a more favorable attitude toward individual responsibility (7), effort expenditure (8), distribution of work load, and making whole units. After experience with the Individual Job Design, workers disliked the lack of personal responsibility (7) characteristic of the Line Job Design.

Davis, Louis E., and Valfer, Ernst S. "Intervening Responses to Changes in Supervisor Job Designs." Occupational Psychology 39 (1965): 171-189.

A 24-month study was carried out in 11 shops in the industrial facility of a large West Coast military installation that had introduced modifications in its organization and in the duties, responsibilities, and authority of some first-line supervisors as part of a planned experimental field study directed by a University of California research team. The facility overhauled, repaired, and tested military aircraft and components; the shops studied were first-level organization units doing overhaul, repair, and testing of aircraft systems accessories. Each shop employed 12 to 30 craftsmen, working under one supervisor.

Two modifications in supervisors' jobs were introduced separately into experimental shops, which were matched to control shops for type of work, style of supervision, worker skills, and past performance. These two "treatments" were Product Responsibility, which provided supervision of all functions required to complete the products processed in a shop (two experimental shops; two control shops), and Quality Responsibility, which added inspection to the functions required to complete a product, including authority for final quality acceptance of the product (four experimental shops, three controls). In the Product Responsibility shops, all functions required to complete products were performed by one work group: the change required acquisition of additional knowledge and skills by both supervisors and workers. In the Quality Responsibility shops, however, the tasks added were only very slightly different from those performed by the shops prior to the change, but there were major differences in explicit delegation of responsibility for quality and authority to perform quality acceptance: quality control inspectors were withdrawn from these shops and their authority transferred to shop supervisors, who subsequently transferred it to key workers.

The organizational change to Product Responsibility (7; 5a) -- technically complex change, with new tasks and skills required -- resulted in positive perceptions by workers and supervisors of greater autonomy (7), less limiting internal structure (7), greater skill for workers in the long run (5a), greater product control (7), and increased information from the workers (6b). Negative perceptions associated with Product Responsibility (7; 5a), were a loss of "man-orientation," loss of concern for the worker (1), a low rate of transfer of treatment tasks and responsibilities (7), and low delegation (7). Quality Responsibility (7) -- technically trivial change with addition of inspection and

"Intervening Responses to Changes in Supervisor Job Designs" (Continued)

authority for product acceptance -- resulted in workers and supervisors perceiving positive change toward greater authority and autonomy (7), greater concern for the worker (1), a higher rate of transfer of treatment tasks and responsibilities to workers (7), reduced conflict with staff group (6b), and increased information flow to workers (6b). Negative changes perceived under quality responsibility (7) were loss of man-orientation, greater internal structure (7), and low delegation (7).

"Personnel costs" in terms of absenteeism (1), lateness (1), grievances (1), injuries (2), and transfers were not significantly affected by the treatments. These costs were low in the organization both before and after the treatments were introduced.

Both treatments resulted in a shift of supervisors' time from man-management to technical-management; workers responded positively to this change in management style (6b).

[This study was also reported as: Davis, Louis E., and Valfer, Ernst S., "Studies in Supervisory Job Design," Human Relations 19 (1966): 339-352.]

Davis, Louis E., and Werling, Richard. "Job Design Factors." Occupational Psychology 34 (1960): 109-132.

A West Coast branch plant of a national industrial chemical manufacturing company undertook modification of job content and organization of general maintenance craftsmen, in an attempt by local management to improve productivity, to respond to worker demands for more creative activities and opportunities for closer identification with the job, and to eliminate jurisdictional disagreements among the various crafts. Prior to the change, each operating department had its own maintenance crew; the change involved establishing a centralized maintenance department. The jobs of the newly designated maintenance repairmen were enlarged to include additional skills (e.g., welding, boilermaking, equipment installation), which were taught in a formal training program. Jobs of workers in maintenance shops, however, remained unchanged, since they were specialized to a single craft. The enlarged jobs were reclassified and wages increased accordingly.

A questionnaire was administered to 223 workers in seven departments. Two analyses were made, the first identifying job factors associated with criterion variables (performance indicators), the second examining questionnaire responses that distinguished enlarged jobs from others in the plant.

Workers with enlarged, higher-skill jobs were found to be concerned with goals important to management (8): they indicated that they wished to make contributions to improvements in operations (8), related company success to their own (8), related their own advancement to better skills and performance (9; 5a), identified learning new skills as a positive value of the job (5a), and were ready to accept additional duties to help improve their own and group performance (8). Responsiveness of enlarged jobholders to management goals (8) had apparently developed despite some negative responses dealing with lack of variety of assignments, lack of control over work in process (7), and low ranking of the company, supervision, and management among factors liked about the job.

Workers with enlarged, higher-skill jobs were also found to be concerned with the importance of their jobs, control over job content and work methods (7), high variety of assignments, special training (5a), responsibility for quality (7), and performance of preparatory activities.

Denhardt, Robert B. "Leadership Style, Worker Involvement, and Deference to Authority." Sociology and Social Research 54 (1970): 170-180.

A brief questionnaire containing previously-validated items was administered to operative employees in two marine industrial organizations strikingly different in their styles of management (hierarchical versus less-authoritarian structure).

More open styles of organizational leadership (7) were found to result in increased involvement (8), as measured by perceived fulfillment, but also to socialize members toward greater deference to organizational authority (7).

De Pasquale, John A., and Lange, Richard. "Job-Hopping and the MBA." Harvard Business Review (November-December, 1971): 4-12.

A questionnaire survey of recent MBA (master of business administration) graduates of 12 of the nation's leading graduate business schools was conducted to investigate turnover -- "job-hopping" -- among MBA's. The questionnaire was mailed to all members of the 1965, 1966, 1967, and 1968 classes of the selected schools, which were chosen for geographic diversity and variety in the sizes of graduating classes. Responses were received from 5,022 MBA's, a response rate of 40 percent. The sample represented nearly 10 percent of the total number of those who received MBA degrees in the United States between 1965 and 1968.

Nearly two-thirds of the MBA's who left their initial employers (1) cited as primary causes the lack of advancement opportunity (9), poor expectations for substantial job responsibility (7), underutilization of their MBA training (5b), and inadequate salary growth (3). Furthermore, as MBA's moved from job to job (1), the influence of each reason for accepting and leaving a job changed in a way that showed that advancement (9), responsibility (7), utilization of training (5b), and salary (3) are always desired; however, with the exception of salary, each begins to decline in importance as a motive for leaving subsequent jobs (1), implying that MBA's made their first moves in the hope of improving the first three job characteristics (9,7,5b). MBA's who change jobs frequently (1) tend to move into line and administrative/general management positions rather than staff positions, supporting the finding that the desire for greater responsibility and faster advancement accounts for a large portion of turnover (1) among MBA's, since the former kinds of positions offer those characteristics.

Although salary was not the prime motivation in job-hopping (1), continued salary growth (3) became a greater concern over time.

A comparison between job-hoppers who retained their areas of primary responsibility up to the time they left their initial employers and job-holders who remained in their initial areas of primary responsibility showed that job variety played an important role in controlling turnover (1) among MBA's.

Turnover (1) was higher among MBA's working in certain geographic locations (especially New York City and foreign locations), in particular industries (high-turnover fields were advertising, education, and government; low-turnover fields were accounting, banking, and computer equipment and services), and in large companies. Turnover (1) was not related to age, marital status, or sex. The older, married MBA, who worked full-time before attending business school -- popularly considered to be more stable -- was found to be no more likely to stay with his initial employer than was his younger, single counterpart who had no work

"Job-Hopping and the MBA"
(Continued)

experience before graduate school.

A substantial majority (87 percent) of those surveyed felt that industry has social responsibility in a variety of issues, such as the environment, discrimination in hiring, manufacture of unsafe products, creation of artificial demand for essentially useless products, and deceptive advertising; companies' lack of social concern was rated as a cause of moderately high dissatisfaction in present jobs (1).

A relatively high percentage of MBA turnover (1) was found to occur during the first and second years of employment.

Dill, William R. "Environment as an Influence on Managerial Autonomy," Administrative Science Quarterly 2 (1958): 409-443.

An exploratory study of environmental influences on top-management groups was conducted in two Norwegian business firms, each with 250 to 300 employees. Data was collected via a combination of interview, questionnaire and observation techniques. One firm, referred to as Alpha, manufactured a varied line of clothing and sold it to wholesalers and retailers throughout Norway. The other company, Beta, was a sales, engineering, and contracting firm. Both Alpha and Beta were among the older, larger firms in their industries.

Four aspects of the environments of Alpha and Beta were found to enable the managers of Beta to act more autonomously (7) than the managers of Alpha in handling their tasks. At Beta, a highly differentiated and heterogeneous task environment made up of elements seldom addressed to the firm as a whole reinforced tendencies of work groups to see their tasks as distinct from the tasks of other groups in the firm (7). In contrast, at Alpha most of the information that production leaders received came from the president, the sales manager, or the scheduling chief. Furthermore, Beta was receiving more positive feedback from its environment than was Alpha. Another important environmental influence was that managers at Beta had much more exclusive access to environmental inputs of information that pertained to their work group and its activities and were thus in a stronger position to avoid unsolicited advice (7) than were managers at Beta. Finally, since the management at Beta was seldom capable of face-to-face contact, due to geographical constraints, the cost in intermanagement interaction was much higher in Beta than Alpha; therefore, more independent action developed among Beta's managers (7). Also, because the leaders at Beta did not have common access to one another's information flows, the discussion of any problem had to be preceded by a briefing.

Doll, Richard E., and Gunderson, E. K. Eric. "The Influence of Group Size on Perceived Compatibility and Achievement in an Extreme Environment." Personnel Psychology 24 (1971): 305-310.

Attitude questionnaires were administered to 151 Navy enlisted construction workers (27.3 years mean age; 50 percent with high school education) and 94 civilian scientists and technicians (27.6 years mean age; 66 percent with college education), all of whom had volunteered for duty at five United States government antarctic stations.

Results indicated that size of station was directly related to perceptions of compatibility (6b) among the military construction personnel. Among the civilian scientists and technicians, similar trends were apparent but in no instance did the associations approach statistical significance. For military personnel, working in a small station (8-11 members) was associated with less perceived compatibility among the group members (6b) than existed among those working in large stations (20-30 members).

Dunn, James P., and Cobb, Sidney. "Frequency of Peptic Ulcer among Executives, Craftsmen, and Foremen." Journal of Occupational Medicine 4 (1962): 343-348.

The relative frequency of peptic ulcer was examined with a pretested questionnaire in a group of varied management personnel from several Pittsburgh companies and a group of craftsmen and their foremen from a chemicals research and development facility in Tennessee. The executive group (middle managers) totalled 377, the foremen, 34, and the draftsmen, 273. The foremen had all been promoted from the craftsmen group and were comparable to them socio-economically, in contrast to the executives. Analyses of questionnaire results were made by occupational category for each of several indices of peptic ulcer and for a history of gastrectomy.

Results of the study indicated an association between occupation and ulcer disease (2, peptic ulcer): foremen showed consistent evidence of a greater frequency and severity of peptic ulcer (2) than craftsmen or executives. Craftsmen and executives did not differ significantly except for one item: craftsmen gave significantly more positive responses to the question on the peptic ulcer index regarding stomach pain (2) beginning two hours after eating and relieved by milk or food.

There was no evidence to support the idea that executives have an unusual prevalence of ulcer disease.

It was not determined whether the association between occupation as a foreman and peptic ulcer occurred because the job itself contributes to the disease or because those with a tendency to ulcers are more likely to be promoted. The authors speculate that the foremen studied are in a position of role conflict, having been separated from their fellow craftsmen without really being made members of management.

Eliaeson, P. J. "A Smooth Transition and Reduced Labor Force in Swedish Insurance Companies." In *Office Automation: Administrative and Human Problems*, edited by W. H. Scott, pp. 55-69. Paris: Organization for Economic Co-operation and Development, 1965.

In a Swedish insurance company, 30 supervisors and 170 rank-and-file employees participated in a study using interviews, questionnaires, and company records.

In this study, the changeover in the information handling system to Facit EDB 3 (electro-data processing) from the old manual work flow system went very smoothly. The change occurred mostly in the policy and actuarial departments, but, as reported by the workers, "automation changed most jobs."

However, the technological change (office automation) was associated with: (a) some special groups (i.e., people working with technical equipment, computer programmers and operators) have gained economically (3) in relation to their educational background; (b) due to the assurance of maintaining previously established job security (3), there are extremely few young employees, while employees in older age groups predominate (6b); (c) there is a very marked belief that office automation gives more to think of and take into consideration in the work (5b).

Engel, Gloria V. "The Effect of Bureaucracy on the Professional Autonomy of the Physician." Journal of Health and Social Behavior 10 (1969): 30-41.

Questionnaires were sent to physicians in three types of bureaucratic settings -- non-bureaucratic, moderately bureaucratic, and highly bureaucratic -- in order to examine the relationships between bureaucratic structure and degree of professional autonomy within the client-professional relationship. The non-bureaucratic settings were solo or small-group practice; the moderately bureaucratic, a privately-owned, closed-panel medical organization; the bureaucratic, a government medical organization. Of the 1,628 physicians who received questionnaires, 628 (42 percent) returned them. The physicians in solo practice were selected by random sampling; in the two organizations, the total physician population was used.

A moderately bureaucratic setting, as defined by number of hierarchical levels, degree to which rules and regulations are utilized (7), availability of or access to unique and/or expensive equipment, and presence or absence of an atmosphere in which work can be performed in teams or groups rather than in isolation (6b), was found to provide physicians with the greatest opportunity for perceived professional autonomy (7), when compared to non-bureaucratic (solo or samll-group practice) and highly bureaucratic settings (government medical organization). The moderately-bureaucratic setting was a privately-owned, closed-panel medical organization. Physicians in the highly-bureaucratic setting were least likely to perceive themselves as autonomous (7); those in the non-bureaucratic setting were intermediate in perceived autonomy.

Within specific setting types, size of organization was related to degree of autonomy (7). The individual physician's rank in the organization also proved relevant: within an organization, those with higher rank tended to perceive themselves as having higher autonomy than those with lower rank. Length of time in the organization, although it did not alter the relationships originally revealed between the two major variables, did affect one's perception of his autonomy: the longer in the organization, the greater the perceived autonomy.

Background factors such as father's occupation, medical specialty, time in practice, and personal satisfaction with one's work were found to be unrelated to degree of perceived autonomy.

Engel, Gloria V. "Professional Autonomy and Bureaucratic Organization." Administrative Science Quarterly 15 (1970): 12-21.

California physicians working in settings that differed in degree of bureaucracy were studied, through questionnaires and interviews, to determine empirically whether bureaucratic organization limits professional autonomy. The relationship between bureaucratic structure and degree of professional autonomy within the client-professional relationship was examined by comparing the perceived autonomy of 684 physicians in three settings: nonbureaucratic (solo or small-group practice); moderately bureaucratic (a privately-owned medical organization); and highly bureaucratic (a government-associated medical organization).

Physicians in the moderately bureaucratic setting were most likely and those in the highly bureaucratic setting least likely to perceive themselves as autonomous (7) in terms of (a) freedom to innovate in work tasks, methods, and ideas; (b) individual responsibility; and (c) freedom of communication with clients and fellow professionals. These findings do not support the contention that bureaucracy is necessarily detrimental to professional autonomy.

Engelstad, P. H. "Socio-Technical Approach to Problems of Process Control." In Papermaking Systems and Their Control: Transactions of the Symposium Held at Oxford, September 1969, edited by Francis Bolam. London: The British Paper and Board Makers' Association, 1970.

In the Hunsfos pulp and paper mill in southern Norway, a plan of responsible autonomous work groups was introduced to replace the former work conditions, which had involved strict job delineation and specification, supervisors on the shop floor, and physical separation of task operations. Field observation and interviews indicated that the original conditions were associated with: high turnover among reserves (1), workers' viewing their specific tasks as the "maximum" of their responsibility (1), jobs seen as lacking in interest, excitement, and self-enhancement (5), and failure of the system to encourage men to share self-acquired new knowledge (6b).

The new autonomous group plan, incorporating comprehensive multiple-skill operator training, elimination of floor supervisors, and a management philosophy of encouraging problem-solving within the group,resulted in operators in work groups taking group responsibility (7; 6b); growth in inter-operator communication (6b); increased teamwork (6b); greater worker interest in job problems and processes, including worker suggestions for improvement of production methods (8; 5b); direct group decision-making (7); and group pay incentive plans (3).

Entwisle, Doris R., and Walton, John. "Observations on the Span of Control." Administrative Science Quarterly 5 (1961): 522-533.

Presidents or heads of 60 organizations (20 colleges or universities, 20 small businesses, and 20 automobile dealerships) were sent questionnaires. Only eight of the auto dealers responded; therefore, dealerships were dropped from the analysis, which was ultimately based on the responses of 20 college presidents and the heads of 14 small businesses.

Results indicated a small positive correlation between the size of the organization and the size of the span of control (7).

Eran, Mordechai. "Relationship between Self-Perceived Personality Traits and Job Attitudes in Middle Management." Journal of Applied Psychology 50 (1966): 424-430.

Job attitudes of lower-middle managers were investigated in relation to their scores on a self-perception personality instrument. A job-attitude questionnaire and a forced-choice self-description questionnaire were completed by 456 managers employed by three large, nationally-known manufacturing companies (81.3 percent response). Of the 456 managers, 338 were found to represent the lower middle layer of management of their companies, at a level above first-line supervisors and below the midpoint of the managerial hierarchy.

Two groups were differentiated within the sample: "Highs" and "Lows," based on respondents' scores on the Decision Making Approach (DMA) Scale of Ghiselli's Self-Description Inventory. The attitudes of 89 "Highs" who described themselves most like top managers were compared with attitudes of 89 "Lows" who described themselves most like lower-level managers. There were no significant differences between the two groups in regard to age, education, or income.

Lower-middle managers who scored as Highs on the DMA scale (perceived themselves as relatively more capable, industrious, resourceful, and enterprising than those who scored as Lows) felt that they received significantly more fulfillment of needs for security (3), esteem (4), autonomy (7), and self-actualization (5) in their jobs than was reported by subjects who scored as Lows. The Highs also perceived esteem (4), autonomy (7), and self-actualization (5) needs as being significantly more important to themselves than to the Lows.

The findings are interpreted to indicate that the Lows (who see themselves as relatively more practical, deliberate, courageous, discreet, "planful," intelligent, calm, steady, modest, civilized, and patient) may sense an incongruity between their self-perceived personality traits and the objective requirements of the managerial role, in that they are required to behave as if they were determined, resourceful, ambitious, and enterprising. This incongruity, in turn, leads them to believe that the environment does not reward them as much as it should in terms of need fulfillment (3,4,7,5). The environment -- subordinates, peers, and superiors -- may in fact react to the Lows' role enactment by failing to reward them (3,4,7,5) in the same way as it rewards other employees at the same level; therefore, the Low's expectations as junior managerial staff members are not fulfilled. Highs, however, experience more fulfillment of most needs because their self-perceptions are congruent with the objective requirements of their jobs.

Neither of the two variables -- job level nor perceived personality traits -- alone explained the variations in perceived need fulfillment.

Evan, William M. "Superior-Subordinate Conflict in Research Organizations." Administrative Science Quarterly 10 (1965): 52-64.

A self-administered questionnaire was completed by approximately 300 scientists, engineers, first-line supervisors, and second-line supervisors in a governmental research organization and an industrial research organization. The questionnaire attempted to determine the incidence and types of conflict that develop between scientists and managers, as well as their perceived mode of conflict resolution.

The study showed a highly significant positive association between incidence of reported conflicts (6b) and organizational status, as measured by hierarchical position, in both the government and the industrial laboratory. It was also found that in both laboratories conflicts over technical matters tended to decrease (6b) and conflict over administrative matters tended to increase (6b) at successively higher levels of the hierarchical status ladder. No relationship was found between organizational hierarchical status and the mode of conflict resolution (6b). A higher proportion of personnel in the government laboratory, however, reported bilateral or multilateral conflict resolution (6b; 7), whereas a higher proportion of personnel in the industrial laboratory reported unresolved conflict (6b).

Faunce, William A. "Automation in the Automobile Industry: Some Consequences for In-Plant Social Structure." American Sociological Review 23 (1958): 401-407.

Automobile workers (N = 125) were randomly selected for interviews from the work population of four large machining departments of a Detroit plant which had changed from industrial mass production of automobile engines to a highly automated production line. Of workers sampled, 80 percent had transferred from jobs in older, non-automated plants to the same jobs under automated conditions. At time of interviews, subjects had an average of 20 years' seniority but had been on automated jobs an average of only 15 months.

The change to a greatly automated production line resulted in the following: smaller size of interaction group as well as less interaction on the job (6b); greater distance between workers and greater noise (6a, 6b); less teamwork (6a, 6b); more interactions with superiors in general and more interactions characterized as "strained" (6b); work pace more controlled by machine than operator (7); workers and foremen lacked skills to repair machine if it broke down (5b); many workers virtually isolated socially on automated production line (1); elimination of free interchange regarding non-work matters (6b); and less friendship relations and meetings with workers outside of the plant (10b).

The author felt that possibly some of the characteristics attributed to "automation" may have been related to the newness of the technology rather than the pattern of the technology.

Faunce, William A., and Clelland, Donald A. "Professionalization and Stratification Patterns in an Industrial Community." American Journal of Sociology 72 (1967): 341-350.

Interviews were conducted with 95 professionals, 95 technicians, and 137 semi-skilled workers in a privately-owned, hierarchically-organized chemical processing plant that employed half of the community's total male work force of 25,000. Plant technology was post-industrial (continuous process).

Automation was associated with a decreasing functional specialization of tasks (5b) and an increase in the proportion of professionals in the work force. This increased professionalization was associated with recognition in one's field (4) becoming the major status criterion, rather than occupational position or salary.

Technicians were more interested in promotion (9), whereas the semi-skilled workers were more concerned with increased income or material possessions (3). Professionals were associated with a high level of community involvement (10c), whereas the semi-skilled workers were not.

The community's undergoing industrialization was not associated with an increase in social-community class cleavage (10--social distance between classes, the amount of class conflict, and the importance of class identification).

Filley, A.C. and Grimes, A.J. "The Bases of Power in Decision Processes." Academy of Management Proceedings, December, 1967, pp. 133-160.

A questionnaire and interview study of 36 professional members of a nonprofit professional organization (82 percent of total) was undertaken to investigate the relationships between a set of bases of power and organizational structure, type of decisional issue, and type of professional orientation. The bases of power identified included: responsibility, formal authority, control of resources, collegial, and manipulation (in order of overall frequency), as well as a number of less frequent bases. Results indicated that respondents perceived responsibility and authority as the prescribed means more often than they utilized them, whereas manipulation was utilized more often than prescribed. It was also found that bureaucratic issues or questions elicited more attention to formal authority and control of resources (7), whereas professional incidents elicited greater attention to collegial power (7). Finally, respondents with a "cosmopolitan" orientation were more prone to identify formal authority (7); respondents with "local" orientation slightly preferred responsibility and colleague influence (7) as dominant power bases. The results suggest that this difference between cosmopolitans and locals rests with the ways they choose to operate, not with the ways they perceive the formal organization or what distributions of power bases they desire.

Fine, B. D. "Comparison of Work Groups with Stable and Unstable Membership." Journal of Applied Psychology 55 (1971): 170-174.

In a large oil refinery, 679 maintenance and other workers worked in two different work team arrangements: unstable work teams ("plannables") in which teams were called as needed from a maintenance pool and membership of the teams varied according to needs of the particular job (N = 157); and stable teams (assigned) in which group membership was constant (N = 528). Data were collected from all workers in the sample by means of a paper-and-pencil questionnaire.

Results showed that members of unstable work teams (plannables) perceived themselves as exerting more control on upper-management decisions (7) than did members of stable teams and perceived their supervisors as being in a situation that allows them to use their skills and competence (5b). Supervisors of unstable work teams also were perceived as holding more group meetings (6b) than were supervisors of stable teams.

Members of stable work groups ("assignables") perceived themselves as exerting more influence on lower-level supervisors (7). Membership in a stable work group was also associated with peer leadership (6b, emphasis on teamwork; 4, work group paying attention to the individual).

Fisher, Claude S. "A Research Note on Urbanism and Tolerance." *American Journal of Sociology* 76 (1971)

In two U. S. communities, one southern, the other non-southern, a questionnaire study was made of 6,276 workers in four occupational groupings.

Higher socio-economic status (ranging from the highest--professional and business--through white collar and blue collar, to the lowest category--service, labor, or farm) was associated with greater tolerance toward electing members of minority ethnic groups to public office (10c).

Fleishman, Edwin A., and Harris, Edwin F. "Patterns of Leadership Behavior Related to Employee Grievances and Turnover." Personnel Psychology 15 (1962): 43-56.

Fifty-seven production foremen and their work groups participated in a study conducted in a motor truck manufacturing plant. The work groups represented work operations including stamping, assembly, body assembly, body paint, machinery, and export. At least three workers, drawn randomly from each foreman's department, described the leader behavior of their foreman by means of the Supervisory Behavior Description Questionnaire.

Study results indicated that, to a certain point, the leader behavior characterized as "consideration" was significantly related to reduced grievance rates (1). Beyond a certain critical level, however, increased "consideration" was not related to further decreases in grievances. Below a critical point, the leadership behavior of "structure" was unrelated to grievances; above that point, increased "structure" was significantly related to increased grievances (1). The same relationships were found to exist for turnover (1). Generally, increased "consideration" was associated with reduced turnover rates (1), whereas increased "structure" was associated with increased turnover rates (1).

Fletcher, Leonard J., and Simon, J. Richard. "The Relation between Method of Wage Payment and Incidence of Psychosomatic Disorders." Occupational Psychology 36 (1962): 140-151.

Employees of one plant of a large midwestern company were subjects of a study to determine whether the incidence of psychosomatic disorders is greater among industrial employees working under direct monetary incentives than among those not working under such incentives. Medical records of the company, dating back three years and indicating the reason for most absences of three days or more, were examined. Diagnoses found in the records were from physicians' statements, which employees had to submit in order to receive lost wages and medical expenses. Age, job title, department, type of wage payment, and medical record were recorded for all male wage earners; an employee was classified as having a psychosomatic disorder if his medical record indicated an absence for one or more of 11 diseases generally considered by physicians to be psychosomatic in origin. The sample was also classified in either the pay incentive group if they had been on incentives during the past three years without interruption or in the day work group if they had been on day work for the past three years without interruption. The two groups were similar in race, supervisor, and work locations. Approximately half the incentive group worked as members of servicing teams and were paid group incentives; the other half of the group worked as individuals and were paid individual incentives. Most of the day work sample worked as individuals. Otherwise, both pay groups held jobs similar in skill requirements, physical requirements, and working conditions.

The incidence of psychosomatic disorders (2: anxiety tension, ulcers, hypertension, asthma, hay fever, dermatitis, arthritis, headaches, back pain, colitis, heart trouble) was found to be higher among personnel working under monetary incentives (paid a wage based on the number of parts produced) than among day work personnel (paid the same wage for each hour's work regardless of how much is produced). When the age variable was controlled, however (the incentive group being significantly older than the day work group, and a chi square test having confirmed that employees with psychosomatic disorders were significantly older than workers without them), there was no longer any difference in the incidence of disorders (2) between the two wage payment groups.

French, John R. P., Jr.; Isreal, Joachim; and Ås, Dagfinn. "An Experiment on Participation in a Norwegian Factory." Human Relations 13 (1960): 3-19.

An experiment in participative decision-making was carried out in the main section of the footwear department of a factory in southern Norway. In the section studied, nearly-identical four-person work groups carried out all assembly operations. Nine of these groups were to be switched to a new product and were therefore involved in the experiment, in which five of the groups participated as experimental groups, four as controls. Only the experimental groups engaged in participative decision-making regarding materials allocation to the work group, length of training, division of labor, and assignment of jobs within the work group.

Prior to the start of the experiment in participation, all 36 subjects were interviewed. Approximately two months after the experiment began, a questionnaire was administered to all subjects. The emphasis of the study was primarily on comparison of experimental with control groups rather than on comparisons between pre- and post-experimental measures.

The study showed an association between both objective and psychological participation and such management-worker relations as commonality of goals with organizational goals (8), increased mutual understanding (6b), increased worker perceptions of being valued (4), and a generally more favorable attitude toward management (6b). There was moderate support, however, for the idea that the above relationships were conditioned by perceived legitimacy of the participation on the part of the workers and their level of resistence to the participation.

French, John R. P., Jr.; Kay, Emanuel; and Meyer, Herbert H. "Participation and the Appraisal System." Human Relations 19 (1966): 3-20.

The study was carried out in a company noted for its successful employee appraisal system. The subjects of the study were 92 volunteers who participated in a new appraisal system, out of a total of 122 managers who were scheduled to receive their appraisals during the period of the study. Most of the managers worked in engineering and manufacturing departments. Compared with those who refused to participate, the volunteers did not differ in position level, percentage of salary increase received, or overall appraisal rating.

The study revealed that, to the extent that the subordinate had a high need for independence, the greater his participation in planning the goals for improved performance and the paths for reaching these goals (7), the greater will be his occupational self-actualization (5). Also, there was some support for the prediction that increases in participation (7) would lead to improvements in the relations of the subordinates with their managers (6b); however, it was not shown that decreases in participation would have the opposite effect.

Friedlander, Frank. "Comparative Work Value Systems." Personnel Psychology 18 (1965): 1-20.

This study was conducted in an isolated community of about 12,000 people, of which 3,200 civilian wage earners all work directly for a branch of the United States government. Since the federal government owns and operates most of the housing, retail outlets, and various support and service facilities, the resultant total community embraces personnel belonging to a variety of overlapping occupational and status groups, each with potentially differing perspectives. Each of a sample of 1,468 employees was categorized into one of two status levels and one of three occupational levels. A questionnaire was used to obtain data concerning the relative importance to individuals of various environmental work factors.

The study indicated that being a white-collar employee was associated with considering the most important work characteristics to be those concerned with opportunities for self-actualization: achievement, challenge (5), use of abilities (5b), and freedom (7). Being a blue-collar employee was associated with a primary concern for interpersonal comfort (6b) and security (3) in the work environment. For both groups of workers, the only work characteristic that showed a significant association with hierarchical level and relative importance was job security (3). Decreasing status (hierarchical level) was associated with considering job security (3) to be more important.

Friedlander, Frank. "Performance and Interactional Dimensions of Organizational Work Groups." Journal of Applied Psychology 50 (1966): 257-265.

A pretested 70-item questionnaire derived from prior interviews with organization members was administered twice to each of 12 groups of employees in one of the armed services' largest research and development stations. The 12 groups were drawn from three levels within the organizational hierarchy: the Policy Board, the organization's central coordinating group; five Department Staff Groups, composed of heads of department divisions; and three Division Staff Groups, all involved in technical and engineering development; one group of administrative assistants; and one quasi-official group responsible for administration of employee facilities at the station. Group size ranged from five to fifteen members. The period between questionnaire administrations ranged between six and twelve months. Factor analysis was carried out on the questionnaire responses, and nine factors were identified.

Members of groups higher in the organizational hierarchy, groups composed of higher-level personnel, and groups in which members had greater education tended to perceive themselves as more competitive (6b) rather than trusting and cooperative. The demographic characteristic that had the strongest relationship to all the group dimensions was group size: small groups perceived themselves as acting more as an effective team (6b), able to approach their leader with ease (6b; 7, "pushing" their ideas), more personally involved and actively participating in meetings (6b; 7), experiencing greater trust (6b), and conducting more valued meetings. Groups in which there was homogeneity in education attained tended to perceive their group as a more effective team (6b), their leader as more approachable (6b; 7), and meetings as more valuable.

Friedlander, Frank. "The Impact of Organizational Training Laboratories Upon the Effectiveness and Interaction of Ongoing Work Groups." Personnel Psychology 20 (1967): 289-308.

Interviews and a questionnaire (the Group Behavior Inventory) were used in a study of members of the policy board of a large United States Army research and development station. Of 91 members of the board (which was the highest level in the organizational hierarchy), 31 participated in a training laboratory; 60 did not.

Participation in the training laboratory was associated with increased group effectiveness (5a, solving problems and formulating group policy through a creative, realistic group effort; 6b, increased mutual influence within the group; 7, group members see themselves and others as having influence with other group members and the leader) and with increased personal involvement and participation (6b; 7, individuals want, expect, and achieve active participation in group meetings).

Friedlander, Frank. "Importance of Work versus Nonwork among Socially and Occupationally Stratified Groups." Journal of Applied Psychology 50 (1966): 437-441.

Questionnaire responses from 1,468 United States government (civil service) resident employees of a government community were analyzed as a means of comparing the importance of work-related versus non-work-related factors as opportunities for satisfaction among low- , medium- , and high-status groups and between white-collar and blue-collar occupational groups. The community in which the study was conducted was isolated, with a population of about 12,000; the spheres of work and of social community relations are almost indistinguishable. Response to the questionnaire, which was sent to the homes of all 3,200 civilian wage earners in the community, was 46 percent. Status was defined as the relative level to which a respondent had advanced within his occupational level according to Civil Service grading: upward in the GS grade level in white-collar occupations, and upward from apprentice, through journeyman, to supervisor in blue-collar occupations.

Significant differences were found between the value systems (10) of white-collar and blue-collar occupational levels. Blue-collar personnel placed far greater value on adequacy and availability of church facilities (10c) than did white-collar workers, who attached primary importance to the intrinsic content of their work (5a, performing challenging assignments; 5b, using best abilities; 5,4, feeling of achievement; 7, amount of responsibility and freedom on the job). Blue-collar workers, on the contrary, valued work context (3, feeling of job security; 6b, working relationship with supervisor, smooth and efficient work group, technical competence of supervisor) more than work content; the reverse was true of white-collar workers. The value hierarchy for all of five tested environmental factors also differed: white collar workers gave equal importance to recreation (10), education (10), and church (10c), greater value to work-context factors, and still greater importance to work-content factors. The blue-collar group, however, gave ascending importance to recreation, education, church, work content, and most important, work context.

Contrary to expectation, differences in value systems (10) held by low, medium, or high status levels were not significant. A respondent's status group influenced his value hierarchy only when his occupational group was also taken into account. There were extreme differences between high-status white-collar and high-status blue-collar personnel supervisors in values toward the church (10c) and work context (3;6b), the high-status blue-collar workers placing much higher value on both. There was great similarity, however, between low-status white-collar and low-status blue-collar workers (apprentices), both groups giving relatively high value to church and work context. Similar variations were apparent in values toward education, but with less exaggeration. The value of work content (5a,

"Importance of Work versus Nonwork among Socially and Occupationally Stratified Groups"
(Continued)

5b,5,4,7) was almost identical for high-status white-collar and blue-collar workers and for low-status white-collar and blue-collar workers; a marked difference in value of work content was found only between the medium-status white-collar and blue-collar workers (journeymen).

Friedlander, Frank. "The Primacy of Trust as a Facilitator of Further Group Accomplishment." Journal of Applied Behavioral Science 6 (1970): 367-400.

A longitudinal study employed interviews and questionnaires to explore the impact of initially high and low levels of trust upon later group accomplishment in two sets of work groups: one set of eight groups that interacted in its usual organizational environment and another set of four groups that, in addition, participated in laboratory training. All 12 groups represented task-oriented work units that used typical lateral and hierarchical interaction patterns to accomplish tasks. Training sessions were conducted away from the organization site, were attended by all members of each participating work group, and varied in nature due to being led by different trainers.

Results indicated that work groups in which members have high trust in one another (6b) prior to laboratory training achieve greater group effectiveness (5b; 6b; 7: groups solve problems and formulate policies through creative, realistic team efforts and arrive at creative team solutions through openly sharing responsibilities and problems) and have more worthwhile group meetings (6b) after laboratory training. Conversely, groups in which members feel competitive with one another prior to training (6b) are less effective (5b; 6b; 7) and have less worthwhile meetings (6b) after training.

The degree to which eventual effectiveness of a group (5b; 6b; 7) and worth of its meetings (6b) is contingent upon established feelings of trust was significantly greater in laboratory training than in comparison groups. Trust (6b), therefore, acts as a catalyst with laboratory training to foster group competence (5b; 6b; 7) but does not do so in groups that have not undergone training. Although high trust (6b) augmented the impact of training, it did not increase significantly itself (6b) as a result of training, except when the training was part of an ongoing, integrated development program. Trust within the group (6b) prior to training proved to be the characteristic that best predicted post-training group effectiveness (5b; 6b; 7) and worthwhile meetings (6b).

Relationships among work group characteristics before training were compared with those relationships six months after training. The relationship between group effectiveness (5b; 6b; 7) and worth of meetings (6b) decreased for participants in laboratory training but increased for comparison groups, indicating that after training an "effective" group (5b; 6b; 7) was no longer necessarily defined as one having pleasant, valued meetings (6b). Another change in convergence indicated that after laboratory training, the concept of group trust (6b) became

"The Primacy of Trust as a Facilitator of Further Group Accomplishment"
(Continued)

more significantly associated in group members' perceptions with three dimensions of group accomplishment: group effectiveness (5b; 6b; 7), leader approachability (6b; 7), and worth of meetings (6b).

Friedlander, Frank, and Greenberg, Stuart. "Effect of Job Attitudes, Training, and Organization Climate on Performance of the Hard-Core Unemployed." Journal of Applied Psychology 55 (1971): 287-295.

Successive questionnaires were used to test 478 men (82%) and women who had been unemployed prior to participating in the AIMS Jobs Program for job training and placement. Participants were working in various organizations at time of study; average tenure was six months. Average education was tenth grade; average age, 26.

Results showed that, for the "hard-core unemployed," the degree of perceived supportiveness of organizational climate (new worker treatment; support from peers; support from supervisors) is significantly associated with congeniality (6b, friendliness and agreeableness) on the part of the hard-core unemployed as well as for his supervisor.

Friedlander, Frank, and Margulies, Newton. "Multiple Impacts of Organizational Climate and Individual Value Systems Upon Job Satisfaction." Personnel Psychology 22 (1969): 171-183.

Ninety-five employees of a Southern California electronics research, development, and manufacturing organization completed three questionnaires (83% return rate) measuring dimensions of organizational climate, value to individual of three major work characteristics, and individual satisfaction with the major work areas. Except for four department managers, all members of the sample group were rank-and-file employees working in parts production or assembly.

Satisfaction with task-involved self-realization (5a, on-the-job training and experience that help personal growth; 5b, work that requires use of best abilities) was highest in an organizational climate high in management thrust (7, task-oriented efforts to "get the organization moving" and to motivate by example). Satisfaction with interpersonal relations (6b) was heightened in climates low in hindrance (routine, burdensome duties, seen as "busy work"). Esprit (6b, 4: social needs satisfied at same time as members feel sense of task accomplishment) was the climate dimension most strongly related to all three types of satisfaction: interpersonal relationships (6b), task-involved self-realization (5a, 5b), and recognizable signs of opportunities for advancement (9, advancement opportunity; 3, opportunity for salary increases; 4, recognition for job well done). Satisfaction with recognizable signs of advancement (9), however, was highest among all types of satisfaction in climates with friendly social relationships (6b, intimacy) and considerate management (leadership style in which members are treated as human beings).

Climates high in thrust and low in hindrance were ingredients of all three types of satisfaction.

Individual employees' work values moderated which combinations of climate components maximized work satisfactions. Among employees for whom work was important (high values placed on all three work characteristics: 5a, 5b, 6b, 3, 4, 9), satisfaction with the three work aspects was maximized in a climate of high thrust, high intimacy, and low hindrance. Among those for whom work was less important, satisfaction was maximized in high-esprit, low disengagement ("going through the motions") climates.

Friedlander, Frank, and Walton, Eugene. "Positive and Negative Motivations toward Work." Administrative Science Quarterly 9 (1964): 194-207

In an investigation of influences for and against remaining on the job, open-ended interviews were conducted with 82 of the most productive scientists and engineers in one of the armed services' largest research and development laboratories. The laboratory forms the core of an isolated scientific community of 12,000 people. The government owns and operates the majority of the retail outlets, housing, and other support and service facilities. This total community, in which the spheres of work and of social-community relations are almost indistinguishable, offered an opportunity to analyze the attitudes of those who live and work in the community toward the many experiences that are important to them.

For scientists and engineers, 67 percent gave work process characteristics, such as interest in work and technical freedom, as reasons for remaining on the job (8). Only 34 percent gave work context characteristics, such as pay (3), promotion (9), and fringe benefits (3) as reasons for remaining on the job (8). On the other hand, 80 percent of the scientists and engineers gave work context characteristics as reasons for leaving the job (1); only 20 percent gave work process characteristics as the reason for leaving (1).

Friedman, E. H., and Hellerstein, H. K. "Occupational Stress, Law School Hierarchy, and Coronary Artery Disease in Cleveland Attorneys." Psychosomatic Medicine 30 (1968): 72-86.

A questionnaire survey was conducted among 2,342 male Cleveland attorneys, aged 24 to 69, working in four specialty areas which were ranked according to their stressfulness: from the most stressful--General Law Practice--through two intermediate degrees of stressfulness--Trial Law and Other Specialties--to Patent and Nontrial Law, the least stressful. The 160 law schools attended by the attorneys in the sample were independently ranked by quality into three groups: highest, middle, and lowest.

Results indicated that coronary prevalence rates (2) among the attorneys were not related to the stressfulness of their legal specialties. Coronary prevalence rates were, however, related to quality of the law school attended.

Fröberg, Jan; Karlsson, Claes-Göran; Levi, Lennart; Lidberg, Lars; and Seeman, Kenneth. "Conditions of Work: Psychological and Endocrine Stress Reactions." Archives of Environmental Health 21 (1970): 789-797.

Three studies conducted in Sweden were concerned with "psychosocial stressors" in working life and measurement of their psychophysiological effects:

I. (Simulation Studies)

In two similar experiments, officers and soldiers were subjected to stressful vigils. The first group of 32 officers (average age, 56) alternated between psychomotor (shooting range) and intellectual tasks during a 75-hour period,without relaxation, sleep, stimulants, smoking, walking, or knowledge of time of day or night.

Laboratory tests done before, during, and after the vigil showed that the stressor conditions provoked marked changes in bodily function indicative of stress (2), including increased erythrocyte sedimentation rate (ESR), increased protein-bound iodine (PBI), and decreased serum iron level.

In a second group of 31 soldiers (mean age, 29), a more stressful 72-hour vigil caused more pronounced biochemical stress reactions (2).

In both experiments, approximately 25 percent of subjects developed pathological electrocardiogram patterns (2).

II. (Experimental Modification of Real-Life Stressors)

Twelve young, healthy female invoicing clerks were studied during four consecutive days while performing their usual work in their usual environment, the only change being that on the first and third experimental days, piece-wages were added to the subjects' salaries, so that income could accelerate with productivity. Questionnaires filled out by the subjects every two hours and urine samples collected from each subject and analyzed showed that piecework conditions were associated with biochemical stress reactions (2). On piecework days, work output rose by 114 percent, but one-half the group complained of fatigue, backache, and pain in shoulders and arms (2) on those days.

"Conditions of Work: Psychological and Endocrine Stress Reactions."
(Continued)

III. (The Effects of Natural Changes in Working Environment)

Eighty-six office workers were studied over a 10-week period, beginning two days before they were relocated in connection with a merger between two large organizations. Workers were from four departments, which moved in four different directions: from conventional "cell type" office to "office landscape," from office landscape to cell office, from cell office to other cell office, or from office landscape to other office landscape. Subjects rated their emotional and physical states, and urinalyses were carried out.

Moving from one working environment to another and at the same time from "cell" to "landscape" offices was associated with an initial biochemical stress reaction (2), which returned to normal eight weeks later, and was also associated with fatigue that increased over the eight-week period (2). By contrast, moving from landscape to cell-type offices was associated with decreasing fatigue (2). Moving from one environment to another but from cell-type to cell-type offices was associated with progressive, significant decrease in biochemical stress indications (2) over the period following the move.

Gannon, Martin J., and Brainin, Uri. "Factors Related to Acceptance and Refusal of Employment Among Temporary Help Applicants." Journal of Applied Psychology 55 (1971): 493-494.

Interviews were conducted with 299 office workers, 149 of whom had accepted temporary jobs and 150 of whom had refused them, on referrals by 21 private temporary-help agencies in New York.

Number of skills possessed by applicant, number of days available for work per week, expressed interest in a permanent job as a temporary worker, and past experience in terms of months are significantly associated with the acceptance versus refusal of part-time work offered the applicant by a temporary-help service (1).

Gannon, Martin J., and Northern, Joseph C. "A Comparison of Short-Term and Long-Term Part-Time Employees." Personnel Psychology 24 (1971): 687-696.

An attitude questionnaire was administered to 36 short-term, part-time supermarket checkers (less than two years' tenure before leaving job) and 96 long-term part-time checkers (more than two years' tenure in present job) working in 14 large supermarkets in and around Washington, D. C.

When questionnaire responses of the two groups were compared, job-related attitudes (toward immediate supervisor and other managers, satisfaction with job, social climate, evaluation of performance, pay, and extraneous factors) proved not to be predictive of tenure (1) among part-time employees.

Garson, Barbara. "Luddites in Lordstown." Harper's Magazine, June, 1972, pp. 68-73.

At the General Motors Vega plant in Lordstown, Ohio, the assembly line was designed to operate at a faster rate than any GM or other existing automobile assembly line. Once the speeded-up line was in operation, a new management group fired several hundred workers and divided their jobs among remaining workers. Informal interviews with workers (males, average age 24) after workers had voted 97 percent to strike elicited comments that speed-up of the already simplified, monotonous assembly jobs, plus "Army-like" supervisory style, had increased worker alienation (1) by reducing work variety and freedom for moments of relaxation (7) and had increased workers' feelings of being trapped and turned into machines, desire to quit, and acts of sabotage for diversion or revenge(1). Difficulty of doing the job well at high speed was associated with diminished pride in work (4) and sabotage(1). Alienation (1) was related to seeing the product as inferior.

Because work was seen as monotonous, workers seldom discussed their jobs with their families (11). Some alienated workers (1) formed worker communes (10).

Workers who voted to strike said they did not want pay increases but wanted to humanize working conditions (5).

Ghiselli, Edwin E., and Johnson, Douglas A. "Need Satisfaction, Managerial Success, and Organizational Structure." Personnel Psychology 23 (1970): 569-576.

Questionnaire responses from 413 managers representing a wide variety of business and industrial establishments distributed throughout the United States indicated that working in organizations described as "flat" (i.e., few supervisory levels and large spans of control) was associated with the perceived satisfactory fulfillment of social (6b), esteem (4), autonomy (7), and self-actualization (5) needs. Working in "tall" organizations (those having many hierarchical levels with small spans of control) was not associated with satisfaction of these needs.

Goldner, Fred H., and Ritti, R. R. "Professionalization as Career Immobility." *American Journal of Sociology* 72 (1967): 489-502.

Two surveys of electrical and mechanical engineers were conducted in a large electronics company, the first with 629 engineers in 1964, the second with 447 in 1965. Of the entire sample, 63 percent had bachelor's degrees, 23 percent had master's degrees, and 3 percent had Ph.D. degrees.

The need for power as a characteristic of engineers was found to be related to identifying with the organization and its goals (8) as opposed to professionalism (wanting freedom to work at one's own specialty rather than working toward success in an occupational or administrative hierarchy).

Golembiewski, Robert T., and Blumberg, Arthur. "Confrontation as a Training Design in Complex Organizations: Attitudinal Changes in a Diversified Population of Managers." Journal of Applied Behavioral Science 3 (1967): 525-547.

Consultants to the marketing division of a large firm report in this article on attitudinal changes at several hierarchical levels that resulted from a multi-phased, long-range program of organizational change incorporating a confrontation experience. The 46 participants in the confrontation had spent time over the preceding nine-month period in "cognitively-oriented programs" focused on the role of the manager as change agent and counselor. Participants in the confrontation encompassed hierarchical levels down to the first level of field supervisor. The confrontation design required an exchange of "images" between individuals or organization units (Relevant Others). An attitude questionnaire was used for before-and-after comparison.

Prior to the confrontation, division managers resented the Promotion Department's "looking down" on them; division managers felt they should be allowed to exert greater influence on development of packaged promotions. After the confrontation, the most deeply involved units or positions (director of sales, regional managers, division managers) reflected the most positive attitudinal trend toward measures of collaboration (6b) and feelings of commitment of the success of the total organization (8). Within this group (the most deeply involved), division managers and regional managers also indicated improved attitudes toward influence in the total organization (7); regional managers showed improved attitudes toward feeling a part of the total organization (8) and sticking together to help one another out (6b). The director of sales showed improvement in satisfaction with credit received (4).

Units or positions concerned with creating new business (director of the Promotion Department; sales personnel) reflected a significant negative attitudinal trend, especially toward satisfaction with credit received (4) and building stable, effective work relations with others (6b). In this group, the promotion director also showed a significant negative trend in attitudes toward actual collaboration (6b), satisfaction with influence (7), amount of information received (6b), building stable, effective work relations with other parts of the organization (6b), ease of approach for help (6b), and how conflict was handled (6b), but showed a significant positive trend in attitude toward influence in total organization (7) and one measure of collaboration (6b, doing a good job depends on effective collaboration with...). Sales personnel also

"Confrontation as a Training Design in Complex Organizations: Attitudinal Changes in a Diversified Population of Managers" (Continued)

showed significant negative trends in attitudes toward one measure of collaboration (6b, doing a good job depends on effective collaboration with...), but showed significant positive trends on another collaboration measure (6b, want to collaborate more effectively with...), on satisfaction with influence in total organization (7), and on amount of information received (6b).

The less-involved units or positions (hospital sales, sales training, trade relations, and Unit Z) reflected no particular trend in attitudinal changes, either positive or negative.

Goodman, Paul S. "An Empirical Examination of Elliot Jaques' Concept of Time Span." Human Relations 20 (1967): 155-171.

In a large corporation, questionnaires were administered to 141 managerial and supervisory employees: a general manager, five section managers, 20 sub-section managers, 21 supervisors, and 94 individual contributor-foremen.

A low but positive association was found between one's position in a hierarchical structure and the need and/or ability to keep things together that require a long time horizon for feedback (7). For individuals who dislike working with long time horizons for feedback, having a job with those conditions leads to incongruency (1).

Gouldner, Alvin W. "Cosmopolitans and Locals: Toward an Analysis
of Latent Social Roles." Administrative Science Quarterly 2
(1957): 281-306.

Interviews were conducted with nearly all of the teaching, research, and administrative personnel of a small private liberal arts college, which had an enrollment of approximately 1,000 students, a faculty of 130, and was located in a small town with a population of less than 5,000. The purpose of the study was to distinguish the differences in attitudes and behavior between members of the staff who had been identified by Guttman scales as "Cosmopolitans" and those who had been identified as "Locals."

"Cosmopolitans" were defined as people who possess the following attributes: high skill commitment, low organizational commitment, and an outer reference group orientation. "Locals" were defined as those who possess the following attributes: low skill commitment, high organizational loyalty, and an inner reference group orientation.

The findings of the study indicated that cosmopolitans were more likely than locals to believe that faculty members should have their loads lightened to make more time available for private research, writing, or other work in their own fields (5b). Cosmopolitans showed less organizational loyalty (8) than locals in that they were more ready to leave the college for another (1). Cosmopolitans knew fewer faculty members at the college than did locals (6b) and were more likely than locals to get most of their intellectual stimulation from sources outside of the college (10b). Cosmopolitans also were more likely than locals to regard salaries at the college as too low (3).

Extreme locals participated (7) more than extreme cosmopolitans, although the intermediates participated more than either of the of two groups. Locals were higher on "rule tropism" (5b, 7: the degree to which individuals feel inclined to solve group problems using the formal rules and regulations set down by the organization) than were cosmopolitans. Locals were also more likely to have high sociability (6b) with other locals than with cosmopolitans. Finally, in general, locals seemed to have a slightly higher rate of sociability (6b) than did cosmopolitans.

Graham, William K. "Description of Leader Behavior and Evaluation of Leaders as a Function of Least Preferred Co-Worker (LPC)." Personnel Psychology 21 (1968): 457-464.

In a comparison utilizing a Least Preferred Co-Worker questionnaire, administered to 116 life insurance salesmen working out of 18 agencies located in one region of a large nationwide company, it was found that agents working for leaders who scored high on the least preferred co-worker questionnaire (LPC) perceived their leaders as human relations-oriented (6b), whereas agents working for leaders who scored low on the (LPC) questionnaire perceived their leaders as being more task-oriented (6b).

Graves, Bennie. "Particularism, Exchange and Organizational Efficiency: A Case Study of a Construction Industry." Social Forces 49 (1970): 72-81.

One hundred pipeline construction workers and company officials were interviewed at construction sites and company offices of three companies in Ohio, Michigan, and Ontario. From the 100 workers, nine were interviewed intensively: one general construction superintendent, two inspectors, four gang foremen, one welder, and one x-ray subcontractor.

The pipeline construction industry is characterized by jobs of short duration, often widely-separated geographically. Construction contractors must recruit new crews for each job, and workers must constantly seek work. The industry has not developed effective formal recruiting procedures; recruiting depends upon the particularism of kin ties and friendships. The demographic, technological, and organizational characteristics of the industry have given rise to a national "community" of pipeline workers and three types of social groupings (6b; 10)--kin-based "bunches," friendship-based "cliques," and two-man exchange partnerships--that function as occupational contact networks. These industry characteristics also affect interpersonal relationships within the groups: the "bunches" give kinship a personal relevance that it does not ordinarily have for Americans (11; 6b). The industry's dependence on the contact networks gives autonomy (7) to workers by involving them in manpower recruitment and to supervisors by requiring them to be successfully involved with the networks (6b) in order to get enough reliable workers for each contract.

The author concludes that, although informal and personalistic relationships seem to conflict with the rational, impersonal demands of modern industry, there is a need for further investigation into the supposed inevitability of such conflict. Conflict-mediating patterns like those in pipeline construction probably exist extensively in modern industrial society.

Gruenfeld, L. W., and Foltman, F. F. "Relationship Among Supervisors' Integration, Satisfaction, and Acceptance of a Technological Change." Journal of Applied Psychology 51 (1967): 74-77.

Attitude questionnaires were completed by 40 manufacturing supervisors in a steel foundry in which flattening of the organizational structure had occurred as the result of technological change.

A sense of belonging to (8) and satisfaction with top management proved to be associated with the acceptance by lower-level supervisors of technological change that resulted in the flattening of organizational structure.

Grusky, Oscar. "Career Mobility and Organizational Commitment." Administrative Science Quarterly 10 (1965): 488-503.

Field observation and questionnaire responses were used in a study of individual commitment to an organization. Subjects were 1,649 managers at six levels in the corporate hierarchy of a large organization: top managers, upper-middle management, middle management, lower-middle management, first-level management, and clerical supervisors.

Results unexpectedly failed to prove that the greater the organizational rewards received, the stronger the commitment. Managers with the highest career mobility (9, number of job changes) received greatest rewards in terms of high salary (3) and high perceived authority (7) and were the most committed (8), but managers with minimum mobility were more committed (8) than the moderately mobile. Greater seniority was associated with stronger organizational commitment (8).

The greater the obstacles overcome to gain rewards, the stronger the commitment (8): women managers and those with only a high school education (both barriers to advancement) showed stronger commitment than male, college-educated managers.

Gunter, B. G. "The Work Ambiences of Letter Carriers." Human Relations 24 (1971): 125-138.

Letter carriers employed by the U. S. Post Office were subjects of a study conducted in a medium-sized southeastern city and in a small town in the Midwest. Fifty carriers were interviewed in the larger postal service in the southeast, fifteen carriers were observed in the smaller postal service. All carriers had tenure of at least one year.

Results of the study give evidence that the larger the number of persons with whom an individual interacts within an ambience (6b) and the longer he associates with them, the greater the probability that he will perceive the total work environment as a special or unique entity (8) and will develop favorable attitudes toward the persons with whom he interacts (6b).

Hage, Jerald, and Aiken, Michael. "Program Change and Organizational Properties: A Comparative Analysis." American Journal of Sociology 72 (1967): 503-520.

Interviews were carried out with 314 professional staff members (psychiatrists, social workers, and rehabilitation counselors), executive directors, department heads, and other staff of 16 social welfare organizations in a large midwestern city. Six of the organizations were government-associated; 10 were privately-owned. The unit of analysis was the organization rather than the individual.

The rate of program change (i.e., implementation of new programs or services) was found to be positively associated with the degree of complexity (as measured by number of occupational specialties within an organization, amount of professional training of members, and amount of extra-organizational professional activity, 10c) and negatively associated with both degree of centralization (5b, 7, hierarchical authority as opposed to participative decision-making) and degree of formalization (7, job codification and adherence to specific rules).

Hall, Douglas T. "An Examination of Maslow's Need Hierarchy in an Organizational Setting." Organizational Behavior and Human Performance 3 (1968): 12-35.

A five-year study used annual three-hour interviews (open-ended questions) to gather data on the first five years of the careers of 49 male managers employed in an operating company of the American Telephone and Telegraph Company. All the managers in the sample were in their twenties, had college degrees, had been hired as management trainees in 1957, had remained with the company during the five years of the study, and were at higher levels in the organization by the fifth year.

The data showed that as managers advance over five years of employment (9, higher-level managerial positions; greater age), their needs for safety (3) decrease and needs for affiliation (6b, close affective relationships), achievement (9; 5b), esteem (4), and self-actualization (5a) increase.

Among successful (3, higher salary by the fifth year) and less-successful groups in the sample, only the successful group showed a significant increase in need for affiliation (6b) by the fifth year; the less-successful group showed a non-significant increase.

The less-successful group (3) reported less satisfaction of needs for achievement (9; 5b) and esteem (4) by the fifth year than did the successful managers; among the less-successful (3), satisfaction in these areas (9; 5b; 4) decreased from their first-year levels. Less-successful managers also reported less on-the-job satisfaction of their needs than successful managers.

The significant interyear changes in need strength for the total sample is explained as due to developing career concerns (sequential career stages) rather than to gratification of lower-order needs.

Hall, Douglas T., and Lawler, Edward E. "Job Characteristics and Pressures and the Organizational Integration of Professionals." Administrative Science Quarterly 15 (1970): 271-281.

Questionnaires and group interviews were used in a study of the relationship between job design and the organizational integration of research professionals, in which job pressures were the intervening variable. Subjects were 291 directors and professionals in 22 Connecticut research and development organizations. The three modal job pressures were time (meeting deadlines), financial responsibility (personal responsibility for helping achieve the organizations financial goals), and quality (concern for technical excellence).

There were significant positive correlations between structural job characteristics and the three job pressures as well as positive or negative correlations between the job characteristics and satisfaction of higher order needs. Both working on a wide range of projects and having an independent research budget were negatively correlated with the satisfaction of needs for esteem (4), autonomy (7), and self-fulfillment (5a, 5b). Job challenge, however, had significant positive correlations with esteem (4), autonomy (7), and self-fulfillment (5a, 5b).

Quality pressure arose from job challenge (enlargement) and was functional for the individual's integration with the organization: it correlated with organizational effectiveness, with job involvement (8), and with self-actualization (5a, 5b). Quality pressure encouraged the professional to satisfy his need for competence in his work (4) through increased effort and performance. Therefore, a job design incorporating job challenge (enlargement) is appropriate for achieving integration (8) through the medium of quality pressure.

Of all three pressures, time pressure was most widely felt, but it produced neither job involvement nor performance. It eroded the individual's assessment of his own work (4) and lowered individual effort and performance (5b).

Hall, Douglas T., and Mansfield, Roger. "Organizational and Individual Response to External Stress." Administrative Science Quarterly 16 (1971): 533-547.

Three Connecticut research and development laboratories were studied at the beginning and end of a 20-month period (1967-1969) during which they underwent severe environmental stress due to decreases in available funding associated with cutbacks in government research spending, the national economy, and (in the case of one company) market setbacks. Group interviews were conducted and questionnaires administered to random samples of research professionals from the three organizations (N = 59 in 1967; 180 in 1969, including a followup sample of 31 from the group tested in 1967).

Top management responded to pressures for reduced spending and new fund sources by restructuring laboratories for greater control by the parent organizations (increased organizational structure) and emphasizing applied rather than pure research. All changes were made by management without consulting researchers (7).

This organizational response to stress resulted in researchers perceiving less opportunity to satisfy needs in their jobs and less actual satisfaction of needs. Decreased satisfaction of self-actualization needs (5) was associated with increased organizational control of projects (7) and decreased pure research. Satisfaction of needs for self-esteem (4), promotion (9), and pay and security (3) decreased. Possibility of dismissal was associated with lowered satisfaction of security needs (3).

Organizational identification dropped (1), partly in the form of decreased group cohesion (6b). Researchers perceived less value in communicating with others in the organization and protected their own work rather than sharing resources with other people and other departments (reduced integration). The author concludes that these responses were related to management's excluding researchers from organizational decision-making (7) about how to cope with the stress.

Hall, D. T.; Schneider, Benjamin; and Nygren, Harold T. "Personal Factors in Organizational Identification." Administrative Science Quarterly 15 (1970): 176-190.

Questionnaires were administered to 141 professional foresters in the United States Forest Service, chosen at random from a listing of foresters in the eastern region of the United States. The sample included Forest Service members at all levels of organizational unit and all main positions in the organizational hierarchy. Positions, from lowest to highest, were: staff district, line district, staff forest, line forest, and staff region. Forty-nine of the respondents had been in the service from one to five years; 57 from six to 10 years; 19 from 11-15 years; and 17 for 16 years or more.

Organizational identification (8) in the United States Forest Service (an agency noted for its members' high degree of organizational identification) was found to increase over time in the course of the career; the increase is related to growing commitment to public service, a pivotal goal of the organization. Both the degree of identification and its importance to respondents are related more strongly to tenure than to position in the organizational hierarchy; when tenure was held constant, organizational position did not relate to identification.

Other correlations in questionnaire responses showed that organizational identification (8) was related to satisfaction of the "higher-order" needs for esteem (4), autonomy (7), and self-fulfillment (5b; 9). Service-oriented personal traits were apparently important in motivating individuals to join the service and to identify (8) strongly with the organization and its goals. Those personal traits, and higher-order needs, are satisfied by identifying strongly with the service; identification becomes a source of great satisfaction. Since the self-identity and needs of foresters do not change greatly over time, it is concluded that they enter the service with self-identity and needs congruent with the organization's goals and are ready to respond to organizational conditions that enhance organizational identification (8).

The study did not attempt to test or determine the organizational characteristics of the Forest Service that may enhance organizational identification (8).

Hall, Richard H. "Intraorganizational Structural Variation: Application of the Bureaucratic Model." Administrative Science Quarterly 7 (1962): 295-308.

A Likert-type questionnaire was administered to a random sample of executives and non-executives from 10 organizations. Five of the organizations were profit-making; five were governmental organizations. The focus of the study was association between the degree of bureaucratization and the type of task performed. Two different types of tasks were defined, Type I and Type II.

It was found that departments engaged in Type II tasks (tasks that require social or creative skills, such as research, sales, design, and advertising) were less bureaucratically oriented in regard to hierarchy of authority (7), division of labor (5b; 7), and the presence of external procedural specifications (7) than departments engaged in Type I tasks (tasks involving uniform events and traditional skills, such as assembly-line work, standardized administrative work, and clerical work). Executives in departments that utilized Type II tasks perceived themselves as operating in a less bureaucratic manner in terms of emphasis on hierarchy (7), division of labor (5b; 7), procedures (7), and impersonality (5b).

Hardin, Einar. "Characteristics of Participants in an Employee Suggestion Plan." Personnel Psychology 17 (1964): 289-303.

The personal background, attitudinal, and situational factors associated with differential participation of white-collar employees in a new suggestion plan (7) introduced into a medium-sized casualty insurance company in the United States were examined over a nine-month period. The 218 employees were classified into three groups of employees: 134 nonparticipants who made no suggestions during the nine-month period; 49 unawarded suggestees who made one or more suggestions during the period, all of which were rejected by the suggestion committee; and 35 award recipients, who made at least one suggestion for which the suggestion committee gave an award during the nine-month period or at a later date.

Working in the home office, as opposed to working in a large branch office, was shown to be significantly associated with being a "suggester" (7). Also, being a member of the middle-aged group (25-44 years old) was significantly associated with being a suggester; this group also had the highest proportion of award recipients among suggesters(7).

Nonparticipants (7) tended to be those who had worked fewer years after leaving school, were more often "recent hires," and expected to work fewer additional years than the suggesters. Unawarded suggesters (7) tended to be those who did not desire to transfer to another job in the company or elsewhere (1) and expected to hold better jobs than their current ones (9), if they were planning to remain in the labor force for five or more years.

Being a suggester (7) was also significantly associated with an increased daily exchange of work-related information with a larger number of co-workers (6b).

Among supervisors with a low level of dogmatism there was a lower proportion of nonparticipants (7) and a higher level of unawarded suggesters(7) than among supervisors with high dogmatism. Supervisors who often felt nervous (2) and who showed little authoritarianism tended to have a high proportion of suggesters (7) among their subordinates. Supervisors who felt closer to the people they supervised than to their own supervisors had a higher proportion of subordinate suggestors(7); however, those supervisors who felt that they were part of the work group they supervised had fewer subordinate suggesters (7).

Harrell, Thomas W. "Differences Between Men in Big and Small Business." *Personnel Psychology* 24 (1971): 649-652.

In a follow-up study of male graduates of Stanford University with masters' degrees in business administration, a questionnaire and analysis of documents and records were used to compare 223 who were working as managers in large (over 1,000 employees) businesses with 92 who were working as managers in small businesses (under 1,000 employees).

Working in a small business was found to be associated with a higher present income and increase in compensation (3) than was working in a large business.

Harvey, Jerry B., and Boettger, C. Russell. "Improving Communication Within a Managerial Workgroup." Journal of Applied Behavioral Science 7 (1971): 164-179.

An experiment in using laboratory (experience-based) education to improve communication in a managerial work group and thereby enhance task effectiveness was carried out with key managers in the corporate services (research support) group of a large organization. Participants were all members of the Corporate Services Committee on Operations Management (COSCOM): the vice president and 15 division directors who report to him. Prior to the experiment, most COSCOM members had participated in an "unfreezing" experience involving T-groups. Design of the experiment proceeded from consultant interviews with all COSCOM members concerning company problems; intense communication problems were found to exist between COSCOM division directors and the COSCOM vice president.

Interviews with participants and counts of memoranda sent by the vice president indicated that the experimental session was associated with a changed communication pattern between COSCOM members and the vice president (6b), involving a decrease in the number of memoranda issued by the vice president, from 367 in the six-month period prior to the experiment to 177 in the period from six to twelve months after the experiment. Subordinates indicated in interviews conducted one year after the experiment that they felt closer emotionally to the vice president (6b) and that the value of the experiment was high. Persons whose memos were actually discussed in the experiment, however -- those who had a confrontation with the vice president in the training experience -- viewed the experience and results differently from those who did not: those who had the confrontation saw a greater improvement in the quality of communications (memoranda) issuing from the vice president, as well as increased contact and greater closeness with the vice president (6b) and also saw the training experience as having greater overall value.

The vice president perceived that the experiment had improved communication between himself and his subordinates (6b) and that expectations were more clearly communicated (6b; 7, managers initiate more contacts, risk is shared, subordinates more often carry out solutions). The vice president, however, perceived more face-to-face contact with subordinates (6b) than the majority of subordinates perceived.

Hazlehurst, R. J.; Bradbury, R. J.; and Corlett, E. N. "A Comparison of the Skills of Machinists on Numerically-Controlled and Conventional Machines." Occupational Psychology 43 (1969): 169-182.

This study compared the skill requirements of numerically-controlled (NC) and conventional machine tools for eight pairs of jobs in four companies. It is concluded that while NC tools reduce physical effort (6a), demand for motor skills (5b), and the number of decisions an operator is required to make (7), these new machines involve an appreciable increase in demand for perceptual skills (5b, machine monitoring and controlling), and conceptual skills (5b), such as interpretation of drawings, instructions, and calculations.

These authors also note that although the results reported above are reasonably clear in the sample they observed, the skill profiles derived reveal that the profile configurations for the NC jobs frequently have more in common with the jobs they replace than with other NC machines. The authors ascribe part of this variance in skills profiles to managerial assumptions.

Heller, Frank A. "Participation, Managerial Decision-Making, and Situational Variables." Organizational Behavior and Human Performance 4 (1969): 227-241.

Two hundred and three subjects--senior managers and first- and second-line supervisors in 15 large West Coast companies, and student leaders from a large university--reported on their decision behavior by questionnaire and discussion.

For the three groups of industrial leaders, the higher the leader was in the organizational authority hierarchy, the less centralized was his decision-making (7, more subordinate influence on decisions). Industrial leaders, however, tended to be less permissive in their decision-making than student leaders.

For student leaders, the preferred decision style was Joint Decision-making (7, consensus formation with subordinate participation); for senior managers, Prior Consultation (7, decision made only after consultation with one or more subordinates); for second-line supervisors, Prior Consultation and Own Decision with Explanation (Own Decision = decisions made without prior subordinate consultation,but formal post-decision explanation of reasons given to subordinates); for first-line supervisors, Own Decision with Explanation.

Among the senior managers, functional specialization was also related to style of decision making: production and finance managers tended to use centralized decision styles (less subordinate influence - 7); nonspecialized "general" managers and personnel managers were most permissive (7), and managers of purchasing and sales units were intermediate.

When the span of control was large, both senior managers and second-line supervisors tended to centralize decisions.

For first and second-line supervisors, longer tenure was associated with greater tendency to shift from permissive to directive decision procedures. By contrast, senior managers tended to delegate decisions to subordinates increasingly as the managers' length of tenure increased.

Heller, Frank A. *Managerial Decision Making: A Study of Leadership Styles and Power Sharing Among Senior Managers*. London: Tavistock Publications, 1971.

(See abstract of Heller, Frank A., "Research on Skill Utilization, Decision-Making and Job Satisfaction," unpublished, April 1972, for annotation.)

Herzberg, Frederick. "The Motivation to Work among Finnish Supervisors." Personnel Psychology 18 (1965): 393-402.

This study was conducted with the organizational assistance of the Research Institute of the School of Social Science in Tampere, Finland and the Institute of Industrial Supervision in Helsinki. The 139 subjects of the investigation completed a questionnaire containing a translation of an interview that was used with a sample of accountants and engineers in Pittsburg industry in the original study. It was possible to obtain a wide cross-section of Finnish industry, inasmuch as the subjects were lower-level supervisors participating in a managerial development conference conducted by the Institute of Industrial Supervision for its client companies. A previous pilot study with Finnish Engineers in three large companies in Tampere served to verify the accuracy of the translation and to smooth out the other difficulties encountered in cross-cultural investigations.

The results of the study were practically identical to the original case. With respect to the factors themselves, five of the six motivators were found to be significantly unidirectional in the predicted direction of positive feelings at work. Specifically, work interest, achievement, recognition for achievement (4), responsibility (7), and advancement (3) were all significantly associated with positive feelings at work (8). On the other hand, 80 percent of the events describing dissatisfaction stemmed from the hygiene factors. Specifically, supervision, company policy and administration, working conditions (6a), and interpersonal relations with peers (6b) were all significantly associated with dissatisfying work experiences (1).

Herzberg, Frederick. "One More Time: How Do You Motivate Employees." Harvard Business Review (January-February, 1968): 53-62.

The failure of various management attempts to "motivate" employees are described, including reducing time spent at work, raising wages, fringe benefits, human relations and sensitivity training, communications, job participation, and employee counseling. The author argues that the absence of "hygiene" factors such as good supervisor-employee relations and liberal fringe benefits can make a worker unhappy, but their presence will not motivate him. In support of these contentions, a study is cited involving job enrichment .

The subjects of the study were the stockholder correspondents employed by a very large corporation. The correspondents were selected and highly trained, and their task was seemingly complex and challenging. Indexes of job attitudes and performance, however, were low, and exit interviews confirmed that the challenge of the job existed only as words. A job enrichment project was initiated as an experiment with one group,designated an "achieving" unit. A control group continued to do its job in the traditional way. Two other "uncommitted" groups were used to determine whether attitudes changed merely because employees sensed that the company was paying more attention to them.

In the achieving unit, in which job enrichment was instituted in a form that removed some controls while retaining accountability (7), increased accountability of individuals for their own work, gave each person a complete natural unit of work (e.g., module or area), granted additional job authority and job freedom (7), made periodic reports available to the worker himself rather than to the supervisor, introduced new and more difficult tasks (5a), and assigned individuals specific or specialized tasks, enabling them to become experts (5a), there were changes that contrasted with the control group. The achieving unit had lower absenteeism (1) and,subsequently, a much higher rate of promotion (9). Members of the job enrichment unit also out-performed their control counterparts and indicated a significant increase in liking for their jobs (8); job attitudes also became much more positive (8).

Hickson, D. J. "Motives of Workpeople Who Restrict Their Output." Occupational Psychology 35 (1961): 111-121.

"Open" participant observation, attitude interviews with workers, supervisors, and line managers, and analysis of factory records were used in an 18-month study of a group of semiskilled machine workers (N = 18) in a British mass-production engineering factory. The worker group was split into three sub-groups of six men each, working eight-hour shifts, round-the-clock, on the same equipment.

The study confirmed that the machine-workers engaged in group restriction of output, maintaining a "ceiling" output of 6,000 components per man per shift. The "ceiling" was never exceeded by any member of the group, despite the organization's official system of financial reward through individual payment by results and management's known desire for greater production to meet expanding sales. (The machines were not designed with any set maximum speed.) This group norm of restriction of output was found to be associated with the organization's earnings potential system (3). The system was based on time study, a "Standard Time," and a union-negotiated cash rate in direct ratio to the "Standard Minutes" allowed for a prescribed quantity of components; the more S. M.'s allowed, the higher and quicker the potential earnings. The machine-worker group, however, was on a Standard Time designated as temporary and therefore subject to alteration at the discretion of management. Under this arrangement, management then changed the method of work; this change forewarned the men that the earnings potential (3) of their jobs was no longer secure, since the Standard Time would eventually be revised. The group's response to this uncertainty in earnings potential (3, uncertainty about continuance of existing "effort-bargain";7, managerial discretionary power over incentive system) was to establish and adhere to the group output ceiling.

Also associated with the group norm of a ceiling on output was the workers' belief that men on similar work should get similar pay, although some of the machines performed better than others and men were permanently allocated to machines, which gave some workers a built-in advantage or disadvantage. The output ceiling restrained disparities in wage packets within a range comparable with the group's egalitarian ethic and avoided trouble between workers (6b). By limiting competition, the restriction on output increased opportunities for mutual cooperation (6b): a worker who was having a trouble-free run on "good" machines and would easily attain ceiling output would typically spend time helping another man (6b) who had encountered mechanical faults. By inhibiting the competitive drive (6b) and facilitating informal cooperation and social interaction on the job (6b), the output restriction increased social rewards of the job (6b).

"Motives of Workpeople Who Restrict Their Output"
(Continued)

When re-timing of the job finally occurred, a Standard Time revision and a modification of the payment system (3) were negotiated, making it necessary for the men to produce more to attain their previous ceiling earnings. Production rose initially, but ultimately a new, slightly higher output ceiling was established: 7,000 components per shift instead of 6,000. It was determined that even with past insecurity over the effort-bargain (3) removed, the group maintained the restriction of output in order to continue the associated social satisfactions of mutual cooperation and informal interaction (6b).

Hinkle, Lawrence E., Jr.; Whitney, Holland L.; Lehman, Edward W.; Dunn, James; Benjamin, Bry; King, Robert; Plakun, Arlene; and Flehinger, Betty. "Occupation, Education, and Coronary Heart Disease." Science 161 (1968): 238-245.

A five-year survey of relationships between occupation, education, and coronary heart disease was carried out among 269,755 men employed by the Bell System Operating Companies, units of a nationwide industrial network. Medical data provided by the company and reviewed since 1961 by physicians and other investigators were cross-tabulated against variables of amount and type of education, organizational level of subject, organizational mobility as measured by length of time at present organizational level, number of departments in which subject worked during career, and number of Bell System companies in which subject served during career. The sample included executives, managers, supervisors, foremen, and workmen (skilled and others) at eight hierarchical levels, with and without college education, aged 30 to 60-and-over.

Results indicated that men who attain highest levels of management do not as a group have a higher risk of coronary heart disease (2) than men who remain at lower organizational levels. There was no evidence that men who have high levels of responsibility, who have been promoted rapidly, frequently, or recently, or who are transferred to new companies have any added risk of coronary heart disease. Men who entered the organization with a college degree, however, had a lower attack rate, death rate, and disability rate for coronary heart disease (2) at every age, in every part of the country, and in all departments of the organization than men who entered without a college degree The difference in risk appears to exist at the time the men are hired and to be the result of biological differences between college and no-college men,related to differences in social and economic backgrounds and associated with eating and smoking habits.

Holter, Harriet. "Attitudes towards Employee Participation in Company Decision-making Processes." Human Relations 18 (1965): 297-322.

The material for this study consisted of replies to 86 questions, answered in 1962 by 1,128 non-supervisory employees in 18 establishments in Oslo. Of these 18 establishments, 10 are factories with 100-400 employees, drawn at random from 55 firms in Oslo of that size; 7 are larger insurance companies in Oslo; 1 is a large-scale industrial establishment. The purpose of the study was to determine attitudes toward employee participation in company decision-making processes.

Study results indicated that 78 percent of the blue-collar workers and 59 percent of the white-collar workers felt that employees did not participate sufficiently in decisions that concern the management of the establishments as a whole (7). Also, between 56 and 67 percent of both blue- and white-collar workers indicated that they wanted to participate more in decisions that directly concerned their own work and working conditions (7). A mean of 76.6 percent of the workers in the industrial firms wanted more joint decision-making (7). Among the insurance company employees, 62.7 percent wanted more joint decision-making (7).

Interest in joint decision-making (7) was more widespread among those over 23 years old, with greater seniority and more skills, than among those under 23 years old, with less seniority and fewer skills. Employees with white-collar background were as positive toward joint decision-making (7) as were those with a working-class background.

Employees who lacked interest in joint decision-making were more interested in changes that would bring about better physical surroundings (6a) and more opportunities for promotion (9). On the other hand, employees who were interested in joint decision-making were more interested in changes that would bring about better-organized work and better cooperation between workers and management (6b).

Breaking down the employees' personal needs for participation into three categories, the uninterested (7) were generally young women who were less qualified and had been with the firm for a relatively short time. The job-influence interest group (7) consisted of a larger and more heterogenous category of employees, comprising all age groups, men and women, more- and less-skilled. The management-influence interest group (7) were mostly white-collar, above 23 years of age, mostly men, frequently belonging to the most highly-skilled non-supervisory staff, and often had been with the firm for

"Attitudes towards Employee Participation in Company Decision-making Processes."
(Continued)

more than two years. Finally, both blue- and white-collar employees were more strongly associated with the management-influence group than the job-influence group, with which, in turn, both groups associated more strongly than with the uninterested group in the areas of desiring completely independent work (7; 5b), accepting a superior position (9), feeling that they could definitely manage more difficult work (5a), feeling identity with the company (8) and interest in problem areas of the company (8). Attitudes of acceptance toward a change in the methods of work were mostly associated with management-influence interested (7) blue-collar workers and job-influence-interested (7) as well as management-influence-interested (7) white-collar workers.

House, Robert J. "Managerial Reactions to Two Methods of Management Training." Personnel Psychology 18 (1965): 311-319.

Managerial reactions to leader-centered and student-centered management development training methods were compared, using both an open-ended interview and a formal questionnaire to gather data. Managers' opinions concerning optimum teaching methods are also reported.

Contrary to previous research, none of the hypotheses tested were found to differentiate between the two training methods to any significant degree. Program participants did not state that they possessed a clearer understanding of the main points (5a) made by the leader-centered instructor than of those made by the student-centered instructor.

House, Robert J.; Filley, Alan C.; and Kerr, Steven. "Relation of Leader Consideration and Initiating Structure to R and D Subordinates' Satisfaction." Administrative Science Quarterly 16 (1971): 19-30.

Job description, job expectation, and leader behavior questionnaires were administered to a random sample of 456 engineers and technicians, stratified by organizational level, in the research, development, and design departments of three large organizations, to explore possible relationships between leader consideration (a supportive, expressive leadership style) or initiating structure (an instrumental, task-oriented leadership style) and satisfaction of subordinates' role expectations.

There was a positive relationship between perceived leader consideration (7; 6b) and satisfaction of role expectations in areas of attitudes toward the organization and management (8), liking the work, chances for advancement (9), pay and job security (3), respondent's job as compared with jobs of friends (4), job freedom (7), and family attitudes toward respondent's job (11). Correlations varied among the three companies and were lowest for a company that was a defense contractor; formalization of task assignments by specifications of contracts may constrain effects of relationship between leader behavior and role satisfaction.

Unexpectedly, initiating structure (7; 6b) was also positively related to role satisfaction in areas of attitudes toward company (8), advancement (9), job freedom (7), job security (3), and family attitudes (11) when high consideration was also present. The positive relationships between structure and role satisfaction may be associated with the professional background of the sample (engineers and technicians), whose training and higher occupational status may be connected with preference for an ordered environment. The intrinsic interest and enjoyment of high-occupation-level jobs may also relate to favorable response to initiating structure.

House, Robert J., and Rizzo, John R. "Role Conflict and Ambiguity as Critical Variables in a Model of Organizational Behavior." Organizational Behavior and Human Performance 7 (1972): 467-505.

A model of organizational behavior was developed from theory research and interpretation of findings from interviews with 65 members of a large, heavy-equipment manufacturing company, including nine vice-presidents and 56 quasi-professional and managerial employees selected by the vice-presidents, 35 of them in supervisory or managerial positions, the others in engineering, research, or staff groups. The firm was then characterized on the basis of these preliminary interview findings and in terms of current theory. Subsequently, a survey instrument consisting of several questionnaires was administered to a 35 percent sample (N = 200 -- more than 90 percent voluntary participation) of exempt managerial and professional-technical employees. Results of the questionnaire confirmed interview findings that a stress climate existed in the company. In the organization studied (a stress situation), supportive team-oriented employee-centered supervision (6b) and supportive employee-centered organizational practices were positively correlated with employee satisfaction in the areas of advancement opportunity (9), autonomy (7), job security (3), pay (3), recognition (4), social environment (6b), adequacy of authority (7), and intrinsic job features. The relationships between supportive leader behavior (6b) and these satisfaction measures (9,7,3,4,6b) were slightly and consistently greater than the relationship between supportive organizational practices and those measures, indicating the importance of effective supervisory behavior even when organizational practices, policies, and procedures are supportive.

Both supervisory and organizational supportiveness were negatively related to employee perceptions of anxiety-stress, including general fatigue and uneasiness (2), and with propensity to leave the organization (1).

Organizational formalization practices (organizational formalization, planning activity, provision for horizontal communication, selection based on ability, and adherence to chain of command) and task-oriented leadership (6b, leader structure and standards-setting) were negatively correlated with role conflict (7, employee perception of having to do things that should be done differently, having to "buck" a rule or policy in order to carry out an assignment, and receiving incompatible requests from two or more people) and role ambiguity (7, deficiencies in the existence or clarity of behavioral requirements that define role behavior, and predictability of the outcome of one's behavior). Role conflict and ambiguity (7), in turn, were negatively correlated with perceptions of organizational effectiveness and satisfaction in areas of advancement opportunity (9), autonomy (7), job security (3), pay (3), recognition (4), social environment (6b), adequacy of authority (7), and intrinsic job features, but were positively correlated with anxiety (2) and propensity to leave (1). The correlations between role conflict and satisfaction (9,7,3,4,6b) and anxiety (3) however, were weaker than the others.

Indik, Bernard P. "The Relationship between Organization Size and Supervision Ratio." Administrative Science Quarterly 9 (1964): 301-312.

Data were collected from the records of five different types of organizations in order to examine the relationship between organization size and supervision ratio. The sample of organizations consisted of 32 package delivery stations, 36 automobile sales dealerships, 12 volunteer fire companies, 28 nonpartisan political organization chapters, and eight industrial labor union locals. For the purposes of the study, supervision ratio was defined as the ratio of the number of supervisors to the total number of members, supervisors including only those individuals whose functional role involved mainly direct interpersonal supervision or key organizational administrative decision-making and excluding those non-rank-and-file personnel higher in the organization who were serving mainly clerical functions.

The study indicated that in each of the sets of organizations, as the size of the local organizational unit increased, the supervision ratio declined (7).

Indik, Bernard P. "Organization Size and Member Participation." Human Relations 18 (1965): 339-350.

Organizational records and questionnaire measures were used as sources of data for all of the variables in each of the sets of **organizations studied:** 32 package delivery organizations, 36 automobile sales dealership organizations, and 28 voluntary-membership educational-political organizations.

Results showed that organization size has a significant negative relationship to perceived member participation (7). Other associations revealed by the study provide some indication of the reasons larger organization size leads to decreased member participation. In larger organizations there are more potential and necessary communication linkages among the members, and adequate communication is, therefore, less likely to be achieved (6b). This, in turn, reduces the level of **interpersonal** attraction among the members (6b), which reduces the level of participation (7). This chain of consequences was found to occur in all three types of organizations.

Among delivery organizations and automobile dealerships, large organizations were found to be associated with increased specialization, which resulted in less satisfying jobs that in turn, resulted in less participation (7). In delivery organizations only, larger organizations were associated with inflexible bureaucratic rules and regulations, which, in turn, were associated with less employee participation (7).

Inkeles, Alex. "Making Men Modern: On the Causes and Consequences of Individual Change in Six Developing Countries." American Journal of Sociology 75 (1969): 208-225.

A questionnaire survey of 6,000 craftsmen, cultivators, and industrial workers was conducted in government and privately-owned organizations in Argentina, Chile, India, Israel, Nigeria, and East Pakistan.

Results indicated that occupational experience in large-scale organizations, especially in factory work, make a significant contribution to teaching workers to behave in the patterns of "modern men": to be open to new experience, independent of parental authority (11), and to take an active part in civic affairs (10c). The process of rapid socio-cultural change in work life did not lead to undue strain (2).

Ivancevich, John M., and Donnelly, James H. "Leader Influence and Performance." Personnel Psychology 23 (1970): 539-549.

Utilizing a questionnaire and review of documents and records of 394 salesmen working in 31 different sales branches of a large, privately-owned food products corporation, it was found that salesmen's perception of their branch manager's influence as referent (i.e., the extent to which salesmen comply with branch manager's directives because they respect and like him) was associated with a decrease in non-participation performance measures (1, excused and unexcused absenteeism), but there was no relation between perceived basis for power (i.e., either referent, expert, incremental, legitimate, or reward/coercive) and turnover (1).

Jaeggi, Urs, and Wiedemann, Herbert. "The Impact on Managers and Clerks in West German Industry and Commerce." In *Office Automation: Administrative and Human Problems*, edited by W. H. Scott, pp. 69-89. Paris: Organization for Economic Cooperation and Development, 1965.

This study took an overview of the effects of a change to an EDP (electro data processing) system for information handling in various German manufacturing and commercial firms.

Due to Germany's labor situation,clerks do not have to worry about the increased automation resulting in unemployment (3). However, transfers do occur, and some employees miss their familiar surroundings when they have to work in a new department (6a). Automation results in further education (5a) being a prerequisite for advancement (9) and also results in better pay than for corresponding job slots in the traditional sector (3). When automation leads to "less important work" (i.e., where change is in number of transactions processed,and control is reduced to eye control only) clerks perceive a decline in self-esteem (4). Automation allows for a change in emphasis so that in certain jobs (i.e., banks),more time can be devoted to interactions with customers (6b). When automation leaves more time for technical analysis, the job change is seen as representing an increase in prestige (4). However, with the automation take-over, many clerks feel that their previous knowledge is no longer necessary (5b). However, in time most clerks feel that the automated system allowed them to learn a whole new system of thinking (5a).

Automation creates new "functional work relations" (6b); the managers and employees of the new staff function have to maintain close contact with traditional managers and employees.

Automation experts have a powerful position in relation to top management (7) because of their special knowledge.

Automation, which can result in re-allocation (6b) can thus cause feelings of lack of control and self-respect (7; 4).

After the changeover, managerial staff find that they are able to intervene only in operations not lending themselves to programming (7).

Due to automation, managers must be prepared to acquire much more knowledge (5a) than previously, and they are required to use this knowledge to a greater extent (5b).

Jezernick, Misha D. "Changes in the Hierarchy of Motivational Factors and Social Values in Slovenian Industry." Journal of Social Issues 24 (April, 1968): 103-111.

In Slovenia, one of the most industrialized states in the Federal Socialist Republic of Yugoslavia, a panel study was conducted in 1960, 1962, and 1964, using forced-choice pair-comparisons of statements concerning the relative importance of a number of factors affecting working conditions. The subjects were 1,200 rank-and-file workers from 15 Slovenian factories.

Workers of peasant origin -- those who were only recently urbanized or who were still leading a part-worker, part-peasant life -- ranked "co-workers" (6b) as the most important factor in working conditions. Workers of artisan or worker origin gave less importance to co-workers among the factors. All three groups gave an extremely low ranking to the factor "self-management," defined as real opportunity to take part in managerial decision-making processes (7); in all worker subgroups (classified by sex, qualification, formal education, or tenure), self-management was ranked lowest, and there were no significant differences among the groups. These findings are interpreted as an indication that self-management was given low priority either because it did not work or because the "self-managerial need" was inactivated under the given circumstances. The latter implication was supported by the finding that dissatisfaction with self-management (7) in the factories neither influenced the position of the factor in the hierarchy of importance nor put more weight on it.

During the period of the study (1960-64), changes in the society -- modernization, increased standard of living, and a move away from the revolutionary society, to a consumer one -- were associated with an increased emphasis on the importance of "wages" (3) and decreased emphasis on the importance of work. Neither actual incomes nor "aspired incomes" (3) determined how workers ranked the importance of wages (3); the determining factor was the degree to which income aspirations (3) were fulfilled. Aspirations (3, estimations of what a fair wage should be) depended on planned purchases (10a). Planned purchases, in turn, depended on factory location: workers in factories in rural or isolated areas had lower aspirations than workers in factories in urban areas.

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Johnson, Paul V., and Marcrum, Robert H. "Perceived Difficiencies in Individual Need Fulfillment of Career Army Officers." Journal of Applied Psychology 52 (1968): 457-461.

In armored, artillery, and infantry branches of the U. S. Army, 271 captains, 164 majors, and 69 lieutenant colonels were subjects of a questionnaire survey (response rate: 87%). All personnel were stationed in the United States at time of study. For captains, mean age was 28, mean tenure, five years; for majors, mean age was 35, mean tenure, 13 years; for lieutenant colonels, mean age was 44, mean tenure, 21 years.

Results indicated that successively higher levels in the organizational hierarchy are seen as affording a greater opportunity for the fulfillment of ego (4, self-esteem and reputation) and self-actualization (5a, realizing full potential; 5b, feeling of worthwhile accomplishment).

Kahn, Robert L., and Tannenbaum, Arnold S. "Union Leadership and Member Participation." Personnel Psychology 10 (1957): 277-292.

Data were collected on member participation in four local unions from a representative sample of 150 members in each local, using a paper-and-pencil questionnaire employing fixed-alternative responses. Questionnaire response averaged over 90 percent. The unions chosen for study were of the industrial type, within a size range of 350-850 members; all were located in Michigan. Unions were selected to differ in their levels of membership participation, as measured by attendance at meetings (8), member activities at meetings (7, making and seconding motions and asking questions), involvement in committee work (8), and voting in union elections (7).

The level of membership participation (7; 8) in a union local was found to vary directly with the extent to which the stewards keep members informed. Also, the degree to which stewards involve the members in decision-making (7) was directly related to the level of membership participation in union affairs (7; 8). The extent to which stewards help members in need was also associated with the level of membership participation (7; 8). Finally, membership participation on the local level (7; 8) varied directly with the interest that the stewards were reported to take in their men.

Kasl, Stanislav V., and Cobb, Sidney. "Some Psychological Factors Associated with Illness Behavior and Selected Illnesses." Journal of Chronic Diseases 17 (1964): 325-345.

At a large research laboratory run by a nationwide corporation, 331 male employees (269 blue-collar workers; 62 foremen, second-line supervisors, inspectors, and lower-status white-collar workers) were subjects of a study using data from company medical and personnel records covering a two-year period, from physical examinations and medical interviews, and from test and questionnaire data. Dispensary visits for illness was the variable of greatest interest.

The study did not confirm findings of earlier research that showed dispensary visits for illness (2) to be inversely related to occupational status. Craftsmen's rates of dispensary visits for illness (2) were not related to the skill level of their jobs; however, this may be due to the narrow range of skill levels in the group studied, which was more restricted than in other studies, and to the circumstance that the skill level of craft jobs probably was not a good indicator of public esteem or self-esteem, since even high-skill craftsmen were subservient to scientists.

Another hypothesis -- that when the effects of job status are held constant, the men on the more "frustrating" job (2) would have more dispensary visits for illness (2) was mildly supported. Eighty-six men working in machine shop jobs in which craftsmen were especially frustrated and dissatisfied (as indicated by Clyde Mood Scales) were compared with forty-five men on all the other jobs of comparable status level. The two groups did not differ in age or education. The men in the machine shop jobs suffering frustration (2, feeling jittery, depressed, aggressive) had 16.7 percent more dispensary visits for illness (2) than the 45 men on the remaining jobs. Among the machine shop group, the frequency of irritation and annoyance also was related to both dispensary visits for illness and to the number of illness absences; the correlations were somewhat higher than for all the remaining subjects.

(The primary emphasis of the study was correlates of personality characteristics rather than effects of the occupational environment.)

Kasl, Stanislav V., and French, John R.P., Jr. "The Effects of Occupational Status on Physical and Mental Health." Journal of Social Issues 18 (July, 1962): 67-87.

Data were drawn from two companies: at Company A, the sample (N = 5,389) consisted of male blue-collar workers (N = 4,171) on 19 craft jobs at various skill and pay levels of foremen (N = 459), second-line supervisors (N = 153), and second-line nonsupervisory employees (N = 385), all concerned with installation, maintenance, and repair of communication equipment. At Company B, the sample, drawn from a complex of plants in which jet engines were designed and manufactured, consisted of 527 male nonsupervisory and 198 male supervisory employees. Nonsupervisory jobs ranged from low-skill blue-collar jobs to technical white-collar (engineers); supervisory jobs ranged from foremen to third-level supervisors. Medical data on employees were drawn from company records of dispensary visits and corrected for effects of age and distance from the employee's work location to the medical department. Medical records covered up to 35 possible diagnostic categories and spanned a two-and-one-half-year period.

In both Company A and Company B, job skill level was inversely related to dispensary visits (2). Among craft jobs, higher-skill jobs were associated with fewer dispensary visits (2); foremen supervising high-skill craft jobs had fewer dispensary visits (2) than foremen supervising low-skill craft jobs; and low-status foremen had more visits than second-line supervisors. Supervisory responsibility (7) was found to be associated with an increased frequency of dispensary visits (2) in both companies. In Company A, second-level supervisors had a higher frequency of visits (2) than second-level nonsupervisory employees, and foremen had more visits (2) than all other craftsmen and also more visits than second-level nonsupervisory employees. In Company B, when supervisory and nonsupervisory jobs of equal status were compared, supervisory jobs were associated with a higher frequency of dispensary visits; furthermore, 53 men who moved to higher status positions showed a decrease in visits (2), whereas 30 who moved down showed an increase in visits (2).

Results of a questionnaire administered to four foremen and 29 craftsmen from Company A indicated that objective status of one's job is related to self-esteem (4); self-esteem (4) was inversely related to medical visits. An additional finding was that perceived monotony and dullness of one's job was associated with more frequent dispensary visits (2).

Katzell, Raymond A.; Barrett, Richard S.; Vann, Donald H.; and Hogan, John M. "Organizational Correlates of Executive Roles." Journal of Applied Psychology 52 (1968): 22-28.

In a U. S. Army department, 146 civilian executives were subjects of a study using a questionnaire, executive position description, and work analysis form. Mean age of subjects was 46.7 years; mean tenure, 15.2 years.

In general, differences in variables characterizing the organizational setting were associated with differences in the ways executives perceived the social-environmental aspects of their roles (6b). Specifically, organizational mission, organizational level, organizational size, number of persons reporting directly or indirectly, and general service level were all significantly associated with time spent with others (6b). Type of executive job and supervisory consideration were significantly associated with shared rather than individual effort (6b).

Kavanagh, Michael J.; MacKinney, Arthur C.; and Wolins, Leroy. "Satisfaction and Morale of Foremen as a Function of Middle Manager's Performance." Journal of Applied Psychology 54 (1970): 145-156.

Questionnaires were administered to 658 plant managers, department heads, and foremen in 24 manufacturing plants of the Owens-Illinois Company, a large midwestern firm, plus a validation sample of 17 additional plants.

High group satisfaction of foremen in the areas of pay (3), on-the-job learning opportunities (5a), authority and control in employee supervision, budgets, and settling grievances (7), and lack of undue pressure and fatigue (2) was found to be connected with high rating of department heads on their performance of personnel-related job functions. Supervisory job performance, however, was related only to group morale of foremen, not to individual satisfaction items; and supervisors' performance ratings and non-personnel-related job functions had little effect on subordinates' satisfaction.

Kavcic, Bogdan; Rus, Veljko; and Tannenbaum, Arnold S. "Control, Participation, and Effectiveness in Four Yugoslav Industrial Organizations." Administrative Science Quarterly 16 (1971): 74-86.

A questionnaire measuring control, social-psychological aspects of participation, and job motivation, involvement, and organizational identification was administered to 600 workers, supervisors, and managers in four Yugoslav nationalized industrial organizations, paired so that one of each pair had a more participative workers' council. In each plant, the sample group included all workers' council members plus a random sample of non-council members. From 49 to 62 percent of the sample had eight years' education or less; among non-council members, 58 percent had four years' education or less.

The greater the participativeness (7, worker participation with superiors in work-related decisions, worker-to-worker collaboration on work-related decisions, and equality between workers and superiors; 8, favorable worker attitude toward the enterprise), the higher was the level of worker motivation, involvement, and identification (8; also 5, chance to develop abilities). The rankings of the organizations on participativeness (measured on a scale from exploitive-authoritative through benevolent-authoritative and consultative to participative) also corresponded to rankings on amount of control (7) and effectiveness, but participativeness in workers' councils did not bring about participation throughout the organization. Other differences among plants--size (larger), type of product, age (older), sex (more males), and educational level of members (higher)--may be more important in affecting levels of participativeness and control than participativeness in workers' councils.

Kerr, Willard A., and Keil, Rudolph C. "A Theory and Factory Experiment on the Time-Drag Concept of Boredom." Journal of Applied Psychology 47 (1963): 7-9.

This study tested the hypothesis that, contrary to popular notion, time drag is estimated as greater in variety-type jobs than in repetitive-type jobs. Forty-seven employees of the fifty-three employed in a small manufacturing plant participated in the research. All but five were male; age range was 21-60 (the mode was 47); all were under an hourly pay system; three employees were literate only in German and six only in Polish. Employees were informed that the shop clocks had been deliberately set to be either slower or faster than the accurate time (although, in fact, the clocks were accurate). Employees indicated on a questionnaire how fast (or slow) they estimated the clocks to be, as well as what work they were doing, work done before the present task, and whether work was very interesting, interesting, boring, or very boring. Two other variables were also included in the study: length of basic time cycle for the total sequence of operations involved in each job, and subject classification of each job as "monotony-type" or "variety-type."

Time drag (overestimation of time; sense that time passes slowly) was greater in variety-type than in monotony-type jobs, and was also greater in long-cycle than in short-cycle jobs. Employees' own anonymous statements of interest or boredom (1) in their jobs were unrelated to the time drag. Time drag was greater when the present job was less repetitive than the previous job.

Kipnis, David. "Mobility Expectations and Attitudes toward Industrial Structure." Human Relations 17 (1964): 57-71.

An objective type of questionnaire was mailed to a random sample of 185 second-class naval petty officers classified as Enginemen. Returns were received from 154 Enginemen (83 percent). The hypothesis was concerned only with those who expected to make a career of the Navy; therefore, 31 additional Enginemen who indicated that they planned on leaving the Navy as soon as their terms were up were eliminated from the study. The primary work of Enginemen involved maintaining and operating diesel and gasoline engines. At the time of the study, the opportunity for promotion to first-class petty officer was rather poor. Mobility expectations were defined for the study as subjective probability estimated by individuals of their chances for promotion.

Enginemen with the lowest mobility expectations (9) expressed the least liking for their immediate work gangs (6b). No significant associations were found between mobility expectations (9) and either the individual's perception of the job as giving him the opportunity to do what he knew best (5b) or the perceived challenge of his job (5).

Klein, Stuart M., and Maher, John R. "Decision Making Autonomy and Perceived Conflict Among First-Line Management." Personnel Psychology 23 (1970): 481-492.

In a questionnaire survey of a random sample of 400 first-line managers from 12 manufacturing plants of a large, hierarchically-structured, privately-owned industrial firm, it was found that there is a significant relationship between the lack of perceived decision-making autonomy (7) and the perception of conflict in terms of lacking sufficient authority (7), value issues, and social role relations with supervisors (6b).

Klein, Stuart M., and Ritti, R. R. "Work Pressure, Supervisory Behavior and Employee Attitudes: A Factor Analysis." Personnel Psychology 23 (1970): 153-167.

Fifteen hundred blue collar workers in 111 departments of an electronics equipment manufacturing facility completed fixed-alternative questionnaires; department means were used as the unit of analysis.

Employee-oriented supervision, as opposed to product-oriented supervision, was associated with high social cohesion (6b, supportiveness), low social divisiveness (6b, intergroup and intragroup competition), low perception of work pressure (7), and low perceived power of first-line managers (7).

Perception of power in the job of industrial engineer was associated with feelings of loss of job autonomy (7) on the part of production workers. Low feelings of work pressure (7) were associated with high group cohesiveness (6b).

Kolaja, Jiri; Able, Robert L.; Ferguson, John P.; Mathews, Rush W., Jr.; Porter, H. M.; and Ramsey, Larry." An Organization Seen as a Structure of Decision-making." Human Relations 16 (1963) 351-358.

An exploratory, observational study in a local hospital was conducted by a professor and five students. All of the observations were performed by the students as they developed and pre-tested their own rating instruments.

The study showed that under normal conditions, as one moves up the organizational hierarchy, the proportion of ego-initiated interaction time will increase (6b). Also, as one moves up the organizational hierarchy more decisions will be made by that person whose implementation and therefore feedback is delayed (7). Finally, the members perceive that the informal prestige distribution (4) follows the formal structure of the hierarchy of positions.

Kreinik, Phyllis S., and Colarelli, Nick J. "Managerial Grid Human Relations Training for Mental Hospital Personnel." Human Relations 24 (1971): 91-104.

Survey questionnaires (perceptual, attitudinal, open-ended, and self-evaluative) were used to examine effects of managerial grid human relations training in a Minnesota state mental hospital. Thirty-two employees were sampled from various levels of the organizational hierarchy, including administrators, clinical directors, psychiatrists, psychologists, social workers, nurses, and lower-level service workers.

Participation in the grid training laboratory was associated with commitment to more candid interpersonal exchange (6b) and to group problem-solving (7). Identification of key problems was no longer seen as external but as emerging from common effort, which increaed awareness and appreciation of personal resources (5b). All of these changes, however, resulted in a less positive attitude toward the organization and its management (8), because staff members no longer accepted the notion of external influences exonerating organizational lacks.

Kunce, Joseph T. "Vocational Interests and Accident Proneness." Journal of Applied Psychology 51 (1967): 223-225.

In a study of 62 supervisory employees, engineers, accountants, electricians, mechanics, and production workers having from three months to 23 years of job tenure in a large food manufacturing company, the Strong Vocational Interest Blank was used to show that a person's life style, as reflected in his interests, is related to occurrence of accidents (2). High job hazard position and high accident proneness index (AP), determined from the Strong Vocational Interest Blank, were associated with higher-than-average accident rate (2). Longer-than-average job tenure was related to a low accident rate (2), and a low AP score was significantly associated with long job tenure (8).

Kuriloff, Arthur H. and Atkins, Stuart. "T Group for a Work Team." Journal of Applied Behavioral Science 2 (1966): 63-93.

In an electronics manufacturing company, a T-group included both a work team and the team's boss (general manager), who attended every session. The group emphasized intensive and consecutive sessions, followed by immediate application of learning on the job.

Participation in the T-group was associated with the ability to effectively communicate at a level substantially higher than was possible prior to training (6b).

La Porte, Todd R. "Conditions of Strain and Accommodation in Industrial Research Organizations." Administrative Science Quarterly 10 (1965): 21-38.

In a West Coast aerospace industrial laboratory interviews were conducted with 32 scientists, 16 managers, and 16 administrators.

Results indicated that most predicted sources of strain between management and scientists were being neutralized, as evidenced by low turnover of scientists (8) and their perception that the company was the best place to achieve their career goals (9). Separation of major functional roles between scientists, managers, and administrators led to administrators filtering out organizational uncertainties and outside demands so scientists could pursue their research goals (5) in a stable environment and also led to unity between managers and scientists (6b) against "outside" (corporation, government, administrative) sources of problems within the research unit. Managers were former scientists, which was associated with organizational responsiveness to professional values and organizational change toward permissiveness and freedom of operation for scientists (7). Management instigated increased autonomy for research groups (7) by separating scientific from engineering units so that scientists were free of procedural restrictions of the engineering groups. Procedural freedom within their units enabled scientists to satisfy professional values of unrestricted research (5).

Laslett, Barbara. "Mobility and Work Satisfaction: A Discussion of the Use and Interpretation of Mobility Models." American Journal of Sociology 77 (1971): 19-36.

A questionnaire survey conducted in four communities focused on 1,071 male workers in four categories; upper white collar, lower white collar, upper blue collar, and lower blue collar.

Downward mobility (respondent's occupation in comparison with his father's occupation) was associated with highest mean satisfaction-with-earnings score (3, actual/expected earnings).

Lawler, Edward E., III, and Hall, Douglas T. "Relationship of Job Characteristics to Job Involvement, Satisfaction, and Intrinsic Motivation." Journal of Applied Psychology 54 (1970): 305-312.

Questionnaires and structured group interviews, followed by factor analysis, were used in a study of 291 scientists working in 22 research and development organizations. Subjects had master's or bachelor's degree and had an average of seven years' tenure at their present jobs; average age was 38.

Job-involvement attitudes, higher order need-satisfaction attitudes, and intrinsic-motivation attitudes were found to be distinct and differentially related to perceived job characteristics and to job behavior.

The more the job holder felt he had control over what took place in his department (7), the more he felt his job allowed him to be creative (5a). The more the job holder felt the job was appropriate to his abilities (5b), the more his needs for autonomy (7) and self-actualization (5) were satisfied. Scientists working in laboratories where new scientists were given initially challenging jobs experienced greater need satisfaction for autonomy (7) and self-actualization (5) than those working in labs that did not give initially challenging jobs.

Job involvement (4; 8) was related to the degree that the job was seen to allow influence over occurrences in the scientist's department (7), the degree to which it was seen to allow creativity (5a), and the degree to which it allowed use of skills and abilities (5b).

Intrinsic motivation (4; 5) was related to the degree to which the job was felt to allow the scientist to be creative (5a) and to be appropriate to his abilities (5b).

Lawler, Edward E. III, and Porter, Lyman W. "Perceptions Regarding Management Compensation." Industrial Relations 3 (1963): 41-49.

A questionnaire containing items based on a Maslow-type need hierarchy were mailed to a nationwide random sample of members of the American Management Association and to another random sample of managers whose names were on mailing lists available to the association; 1,913 usable questionnaires were returned. Management level of the sample ranged from president through vice president and upper-middle to lower-middle and lower managers.

When amount of pay was held constant, no difference was found among managers at various levels in the importance they attached to pay (3). When managerial level was held constant, higher-paid managers were found to attach less importance to pay (3) than did lower-paid managers at the same level. Line and staff managers who received the same pay and were at the same level in the organization showed no significant difference in amount of importance attached to pay (3).

Managers who actually got the most pay (3) also felt that they received the most pay (3). When actual pay was held constant, however, managers at different levels showed no difference in responses concerning perceived pay level (3), indicating that actual pay (3) rather than management level is the most important determinant of a manager's perception of how much pay he receives (3).

Management level, rather than present pay (3), proved to be the key determinant of managers' expectations about what they should be paid (3). At a given management level, as pay increased, satisfaction with pay also increased: at each managerial level, managers who were paid well in relationship to others at their level (3) were relatively well satisfied with their pay (3), whereas the lowest-paid managers at each level (3) were the most dissatisfied with pay (3).

With management level held constant, higher-paid managers (3) reported greater satisfaction of needs for esteem (4), autonomy (7), and security (3) than did lower-paid managers. The higher-paid managers, however, reported no greater satisfaction of social (6b) or self-actualization (5) needs than did lower-paid managers.

Lawler, Edward E., III, and Porter, Lyman W. "The Effect of Performance on Job Satisfaction." Industrial Relations 7 (1967): 20-28.

An attitude questionnaire based on Maslow's classification of needs, plus superior and peer rankings of performance and effort, were used in a study of 148 middle- and lower-level managers in five organizations: a large manufacturing firm and four small social service and welfare agencies. All but 31 of the managers were male.

There was a stronger correlation with superiors' and peers' rankings of performance and satisfaction of needs (3, security; 6b, social; 4, esteem; 7, autonomy; 5, self-actualization) than between rankings on effort and satisfaction of these needs. There was a slight tendency for satisfaction of higher order needs (4, esteem; 7, autonomy; 5, self-actualization) to be more strongly correlated with performance than satisfaction of lower order needs; the highest correlation was between performance and self-actualization (5).

Lefkowitz, Joel. "Self-Esteem of Industrial Workers." Journal of Applied Psychology 51 (1967): 521-528.

Male and female hourly workers (N = 179) in two divisions of a large midwestern manufacturing plant rated themselves on the "Bills Index of Adjustment and Values" (return rate: 33%). Mean age of workers was 47.5; mean tenure, 21.7 years; mean education, 11.25 years.

Employees who underwent a job change (nature of change not specified) demonstrated significantly greater changes in level of self-esteem (4), without regard to direction of change, in a re-test using the Bills Index than did those who did not undergo a job change.

Lehman, Edward W.; Schulman, Jay; and Hinkle, Lawrence E., Jr. "Coronary Deaths and Organizational Mobility: The 30-Year Experience of 1,160 Men." Archives of Environmental Health 15 (1967): 455-461.

An age cohort of 1,160 men selected from company payroll records of a New Jersey unit of the Bell Telephone System was studied through analysis of data on work experience relative to organizational mobility, abstracted from company records and subjected to principal component analysis to determine "mobility" versus "immobility" factors.

Median age of cohort as of January 1, 1965 was 60; all men had at least 35 years' tenure. Of the total sample, 274 had college degrees when hired; 886 had no college degree when hired.

Mobility experiences of those who died of coronary heart disease before age 60 (N = 65) were compared with mobility experiences of otherwise similar men in the cohort who had equivalent "exposure" in the company, using matched trios of one man who died of coronary disease matched with one who died of another cause (with age and year of death nearest to "coronary man") and one who was still living and on payroll. Men were matched by education (college with college men; no-college with no-college men).

Intra-organizational mobility was found to be unrelated to death from coronary heart disease (2). The "mobility" and "immobility" scores of men who died from coronary heart disease were not significantly different from the scores of those who died from other causes or who survived.

It is concluded that future research might most fruitfully consider intra-organizational mobility and coronary heart disease in a multifactorial context that includes, among other things, meanings to the employee of "quality" versus "performance" promotions (the latter being based on striving, goal-oriented behavior, possibly relevant to coronary heart disease).

Lesieur, Fred G., and Puckett, Elbridge S. "The Scanlon Plan Has Proved Itself." Harvard Business Review (September-October, 1969): 109-118.

The experiences of three widely differing companies that have successfully employed the Scanlon Plan for a long period of time are analyzed in this article, which also describes the plan and generalizes from the three cases.

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The Atwood Vacuum Machine Company, family-owned, with corporate headquarters in Rockford, Ill., has used the Scanlon Plan for 14 years, in six plants employing a total of more than 2,000 people. All members of the organization participate in the plan, including the company president. When the Scanlon Plan was implemented, an individual incentive system was dropped.

Because a major share of its production (mostly automobile parts) goes to the automotive industry, the company is faced with the consequences of more or less severe model changeovers each model year and the accompanying possibility of going out of business. The effectiveness of the Scanlon Plan (3) is shown by its evidences of increased worker efficiency combined with willing acceptance of technological changes introduced by management (1). The company also has a high rate of suggestions by employees (8).

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In the Parker Pen Company, the Scanlon Plan is used only in the manufacturing division in Janesville, Wisconsin. The plan has been in effect for 14 years and covers approximately 1,000 employees; it was installed after termination of an individual incentive plan. One of the Scanlon Plan's most important effects has been the acceptance of automation by the employees involved (8) and general willingness to accept change (8).

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The Pfandler Company, a division of Sybron Corporation, produces chemical, pharmaceutical, food-manufacturing, and brewery equipment. The company is located in New York. The Scanlon Plan has been in existence for 17 years covering 750 employees in the manufacturing division. Under the Scanlon Plan (3), thousands of suggestions have been received from employees (8), have been studied by production committees, and have often resulted in substantial savings or improved quality.

Lewis, Lionel S. "On Prestige and Loyalty of University Faculty." Administrative Science Quarterly 11 (1969): 629-642.

At a large northeastern university, 509 faculty members participated in a questionnaire survey (return rate: 56%). The sample included faculty at the ranks of professor, associate professor, assistant professor, and lecturer/instructor, with education ranging from B. A. through Ph.D. degrees, age from 30 to over-60, and tenure in two groupings: one-to-six years, and seven or more years.

The most institutionally loyal (8) faculty were those with high university prestige (associated with high university rank, greater age, and longer tenure) and low professional prestige (associated with no publications in past three years, bachelor's or master's degree, and little time spent on scholarly research). The least loyal faculty, most inclined to leave (1), were those with low university prestige (low university rank, younger, and shorter tenure) and high professional prestige (many publications in past three years, doctoral degree, and much time spent on research). Faculty were inclined to be disloyal and mobile primarily because of feelings of alienation in their present situation (1) and because of the desire to become part of a more scholarly environment with more opportunities for research (5).

Ley, Ronald. "Labor Turnover as a Function of Worker Differences, Work Environment, and Authoritarianism of Foremen." Journal of Applied Psychology 50 (1966): 497-500.

The labor turnover rate of male hourly production workers in a television picture-tube manufacturing company was studied with respect to biographical data, work environment, and authoritarianism of foremen. The turnover group within the 200-man sample consisted of 100 workers selected from all the early post-World War II records of unskilled workers, within a given pay range, who terminated their employment with the General Electric Company's Buffalo Tube Plant within the first year of employment. The average tenure for the group was 2.5 months. The "steady" group, chosen for comparison, consisted of 100 men selected on the same basis as the turnover group, except that the sample was limited to workers who had maintained employment with the company for more than one year. Average tenure was 33.8 months. Both samples were stratified on the basis of shift hours worked.

Biographical data taken from employment records indicated that more than half of the turnover group terminated their employment during the first month; therefore, the early period of employment was crucial. As a result of this finding, the turnover group was subdivided into an immediate turnover group (average tenure, 9.7 days) and a delayed turnover group (average tenure, 159.8 days). Effects of work environment were measured by comparing the 10-month turnover rates of six work sections, which differed considerably in physical working conditions. Finally, three plant supervisors rank-ordered the 18 foremen on authoritarianism versus permissiveness; a composite ranking was obtained by averaging the rankings of the three supervisors.

Compared with the steady group, the turnover group (1) was younger (average age, 26.33, as opposed to 29.89 for the steady group), held more jobs during the two years previous to joining the company, and had higher hourly wages (3) on their last jobs prior to employment at the tube plant. The immediate turnover group (1) had more years of education and higher hourly wages on their last jobs than the delayed turnover group (1). The turnover rates (1) of the second and third (night) shifts were significantly higher than the rate on the first (day) shift, but there was no difference in rates among the six work sections, which differed considerably in physical working conditions (2, safety hazards, temperature, and cleanliness).

"Labor Turnover as a Function of Worker Differences, Work Environment, and Authoritarianism of Foremen"
(Continued)

Since the rates of turnover (1) on the second and third shifts were significantly higher than those of the first shifts but not significantly different one from the other, the rank-order correlation between the composite supervisors' ranking of foremen on authoritarianism was limited to the 12 foremen on the second and third shifts. A rank-order correlation coefficient of .76 was obtained between high authoritarian ranking of foremen and high turnover rate (1). The higher rate of turnover existed despite the financial incentive (3), an extra 10 cents per hour, paid to workers on the night shifts.

The finding that the hourly wages of last employment (3) of the turnover group were higher than those of the steady group suggests that whatever the motives for the turnover group's job changing, they overrode the financial incentive (3) of the prior job. The higher wages of last employment of the immediate turnover group, compared to those of the delayed turnover group, suggest that length of employment is at least partly a function of the difference between a worker's previous wages and his current wages (3).

Litzinger, William D. "Interpersonal Values and Leadership Attitudes of Branch Bank Managers." Personnel Psychology 18 (1965): 193-198.

Data was collected from 65 branch managers representing two banks in the greater metropolitan Los Angeles area. One banking system was rated by the financial community of the region as highly centralized; the other was rated as much more decentralized. The major criterion for this differentiation was the branch manager's lending authority (7) in granting commercial loans. Data concerning interpersonal values were obtained from each sample by using the Gordon Survey of Interpersonal Values. Contrary to expectations, no difference was found to exist between the managers in a centralized versus a decentralized (7) work environment in regard to their preference for working alone (6b) or their desire for security, predictability, and stability in life (3).

Lodahl, Thomas M. "Patterns of Job Attitudes in Two Assembly Technologies." Administrative Science Quarterly 8 (1964): 482-519.

Interviews were conducted with 50 male auto assembly line workers and 29 women working on assembly of electronic industrial tubes. The men were interviewed at a time when business was slow and there were widespread layoffs in the auto industry; the women were interviewed at a time when business was expanding and the department in which they worked was increasing in size.

The attitudes of the men working on the machine-paced auto assembly line varied significantly from those of the women, who worked in teams of three to nine with a non-machine-paced assembly method. Working on a machine-paced auto assembly line was associated with satisfaction with pay (3) and satisfaction with fellow workers (6b). Conversely, working on a machine-paced assembly line was associated with dissatisfaction with supervision, the company (8), the union (10), and working conditions (6a), as well as with high tension and conflict (2). The machine-paced assembly workers had high perceived job involvement, whereas product and company involvement was low (8).

Working in small, non-machine-paced groups was associated with more satisfaction with supervisor, company (8), and union (10), more experienced tension (2), more perceived interferences in getting their work done (6b), and more job involvement (8) than working on the auto assembly line.

Lodahl, Thomas M., and Kejner, Mathilde. "The Definition and Measurement of Job Involvement." Journal of Applied Psychology 49 (1965): 24-33.

The purpose of the research was to define job involvement, develop a scale for measuring it, gather evidence on the reliability and validity of the scale, and investigate correlations of job involvement with other job attitudes. Initially, 110 statements related to job involvement were collected from interview protocols, existing questionnaires and other researchers, or were invented; the statements were judged by a group of psychologists, sociologists, and graduate students. After a Likert-type item analysis, the resultant 40-item questionnaire was administered to 137 nursing, personnel of a large general hospital, including the entire staff except those on leave. Scores were intercorrelated and factor analyzed, and the set of items was reduced to 20. The revised questionnaire was administered to 70 engineers employed in an advanced development laboratory, as part of a larger attitude questionnaire distributed by the company and returned to the researchers. Response to this mail survey was 69 percent. To compare the nurses' data with the engineers', the final 20 items were rescored for the nurses.

For the 137 nursing personnel, consisting of head nurses, staff nurses (RN's), practical nurses, nurse aides, and orderlies, the only significant correlation of six that were carried out was between age and job involvement (8): older nurses tended to be more involved. For the engineers, high involvement (8) proved to be correlated with the number of people contacted per day in the job (6b). The inter-dependence of the job (6b, necessity for working with others) and with four of five satisfaction variables: satisfaction with the work itself, promotion (9), supervision (6b), and people (6b). High involvement for engineers was also associated with perceived technical proficiency of the supervision, with perceived chances of getting two or more future promotions (9), and with having attended a high school located in the Midwest or the West. Engineers who attended high school in the east or south were less job-involved (8). Job involvement itself was found to a multidimensional attitude that can be scaled with adequate but not high reliability.

Combining study data, the hypothetical job-involved person (8) tended to be older, less considerate as a leader, to prefer administrative or coordinating activities to nursing care activities (head nurses), to describe himself the same way good supervisors do, to have a team-type (interdependent) job, to see more people during the day and to be more satisfied with his work itself, promotional opportunities, and his supervisor and fellow workers. Considerable ambition, upward mobility, and general social motivation were associated with the job-involved individual (8); the involved engineers showed indication of being organizationally involved (8) as well as job involved.

Lyons, Thomas F. "Role Clarity, Need for Clarity, Satisfaction, Tension, and Withdrawal." Organizational Behavior and Human Performance 6 (1971): 99-110.

A mailed-questionnaire study was conducted among 156 female staff registered nurses who were or had been employed at a large community general hospital. Of the total sample, 133 nurses remained with the hospital for 10 months after the questionnaire was administered (78 percent response); 28 had left the hospital voluntarily up to 10 months previous or subsequent to administration of the questionnaire (80 percent response).

Perceived role clarity (7, worker is clear about limits of authority of her job, how she is to do job, and what she is to do; policies and rules are clearly defined) was positively related to work satisfaction and negatively related to voluntary turnover (1), propensity to leave (1), and job tension (4, not knowing how superior evaluates performance, feeling workload is so heavy work can't be completed, thinking that amount of work interferes with doing it well, and thinking it is impossible to satisfy conflicting demands of various superiors; 7, being unclear about scope and responsibilities of job, unable to get information needed to carry out job, and not knowing what co-workers expect; 1, feeling it is necessary to do things on the job that are against individual judgment; 9, not knowing what opportunities for advancement or promotion are possible).

When the total sample was dichotomized on the basis of expressed need for role clarity, the negative correlations of role clarity with voluntary turnover (1) and propensity to leave (1), and the positive correlation with work satisfaction were significantly higher for nurses having a high need for role clarity than for those having a low need for clarity.

The negative correlations between role clarity and job tension, however, were significant for both low and high need-for-clarity groups.

McClelland, James N., and Rhodes, Fen. "Prediction of Job Success for Hospital Aides and Orderlies from MMPI Scores and Personal History Data." Journal of Applied Psychology 53 (1969): 49-54.

The Minnesota Multiphasic Personality Inventory (MMPI) had been administered since 1961 to all nurses' aides and orderlies employed at a large California hospital (N = 111 aides, 100 orderlies).

For both aides and orderlies, 17 out of 18 MMPI scales were significantly associated with absenteeism (1, hours absent and frequency of absences). For aides only, being divorced or single, having a health impairment, and number of dependents were all significantly associated with absenteeism (1).

McKelvey, William W. "Expectational Noncomplementarity and Style of Interaction Between Professional and Organization." Administrative Science Quarterly 14 (1969): 21-32.

Structured interviews were conducted with 121 professionals (30 percent scientists, 70 percent engineers) in a federal government research center with bureaucratic structure and emphasis on stability, to examine what occurs when professionals discover that the organization employing them is not fulfilling their research and career expectations.

The professionals' perception of expectational nonfulfillment (noncomplementarity) was highly correlated with negative attitudes toward the organization (1) and belief in individual loss of control (7) over career advancement (9). "Insurgent" professionals, who perceive great noncomplementarity and believe that complementarity cannot be achieved without destroying organizational structure and rebuilding it, were ranked lowest in promotion eligibility by their supervisors (9). "Ritualist" professionals, who perceive some noncomplementarity but respond by conforming to organizational expectations, were ranked highest in promotion eligibility (9).

McNulty, James E. "Organizational Change in Growing Enterprises." Administrative Science Quarterly 7 (1962): 1-21.

By means of questionnaire and interview techniques, a cross section of 30 southern California-based companies was obtained. To be selected, firms had to have over 100 employees in 1955, show a sales increase for the 1947-1955 period, have headquarters in southern California, and have at least 50 percent non-defense business; the company could not be a utility.

In terms of organizational chart data, there were marked increases in the size and complexity of administrative structures in the group of companies studied. These statistics, based on company records, show that the growth in the southern California market was associated with a lengthening of "chains of command ," as measured by the number of management echelons (7), as well as an increase in the use of committees of both the advisory and "line" or plural executive type (7). In general, the changes seemed to be most marked for the manufacturing companies in the sample and least pronounced for the banking and financial companies.

In regard to inter-organizational communication patterns, those companies that planned for organizational change did not differ in their communication behavior (6b; 7) from those companies that did not plan for the change; neither group showed a marked difference in communicative behavior (6b; 7) as a result of environmental market growth. The evidence suggests incomplete administrative adaptation, although no great dissatisfaction was manifested at the top management level.

Maier, Norman R. F; Hoffman, Richard L.; and Read, William H. "Superior-Subordinate Communication: The Relative Effectiveness of Managers Who Held Their Subordinates' Positions." Personnel Psychology 16 (1963): 1-11.

Superior and subordinate members of five companies were interviewed individually on questions related to the subordinates' jobs. In each case, the superior, after being introduced to the purposes of the study, was asked to designate an immediate subordinate with whom he had frequent contact and with whom he had worked long enough so that he knew him fairly well.

The study showed no significant differences between superiors who had held their subordinate's job and those who had not, in regard to agreement on what constituted the subordinate's job duties, requirements, future changes, and problems. Subordinates who most desired promotion (9) were found to be the least likely to communicate with their superiors (6b).

Mann, Floyd C., and Williams, Lawrence K. "Some Effects of the Changing Work Environment in the Office." Journal of Social Issues 18 (1962): 90-101.

In a large division of a major, publicly-owned power company, a change was made from an industrial mass information process to an automated information process. In a study of the effects of the changeover, questionnaires were completed by non-supervisory employees, supervisors, and department heads just prior to the change and afterward, and informal interviews were conducted throughout the changeover. The sample (N = 168) consisted of 88 employees who were integrated into the new technology and 80 who were not. Informal interviews were conducted throughout the changeover.

Automation was found to bring about greater rationalization of the system, greater "risk" in each job because mistakes became costlier, and greater interdependence in the structure of activities, which in turn were associated with increased interaction among work group members (6b), greater variety, change, and responsibility, which afforded new opportunities for development and learning (5a), and an increased feeling among employees that their jobs were important (4). Additional results were that employees perceived a worsened outlook for their futures with the company (9) and were more worried about layoffs and the possibility of losing their jobs (3); also, more employees contemplated leaving the company (1), which they now saw as more interested in cutting costs than in the welfare of employees (8).

The study also produced evidence that the change to automation, by tightening performance standards and increasing job risk and accountability without giving workers authority to regulate or control their tasks (7), eliminated the benefits of job enlargement generated by the change and possibly caused stress conditions resulting in increased anxiety (2).

Mannheim, Bilha F.; Rim, Yeshayahu; and Grinberg, Geulah. "Instrumental Status of Supervisors as Related to Workers' Perceptions and Expectations." Human Relations 20 (1967): 387-396.

One hundred sixty-four manual workers and 101 clerical workers in eight Israeli industrial plants participated in structured interviews. Relationships between the workers' choice of supervisor under differing conditions of combined "initiation of structure" and "consideration" indicated that both blue-collar and white-collar workers chose to work (6b) with supervisors who conformed to high consideration expectations. Only the white-collar workers' choice of supervisor (6b) was affected when there was no expectation of consideration but consideration was obtained nonetheless. White-collar workers would also reject a supervisor who failed to conform to their expectation of low structuring; blue-collar workers' choice of supervisor (6b) was not affected by supervisor's conformance to expectations of structuring.

Marenco, Claudine. "Gradualism, Apathy, and Suspicion in a French Bank." In Office Automation: Administrative and Human Problems, edited by W. H. Scott, pp. 31-55. Paris: Organization for Economic Co-operation and Development, 1965.

White collar administrative and non-administrative workers in two administrative centers of a large nationalized bank in France were interviewed and completed questionnaires prior to, immediately after, and two years following a change from an industrial mass process of information processing to automated information processing.

Prior to the change (before automation), the management philosophy of secrecy regarding change proposals resulted in withdrawal, "neutral" attitude, and even sabotage (1). Management's manipulativeness in dealings with subordinates resulted in subordinates' lack of desire for work relations with supervisors (1; 6b). Specific functional divisions within the organizational structure resulted in low expectations of advancement (9) and in employees' refusing to take an interest in or responsibility for anything outside the limits of their own jobs (1).

Immediately after the change to automated information processing, there was an increase in the status and prestige (4) of those who worked with automation and a loss of specific functional divisions within the service sectors, which caused fear of loss of control (7) among managers of those sectors.

Two years after the change to automation, strict adherence to performance standards for automation-related tasks resulted in lack of initiative among workers (7), a total indifference to the organization (8), and regret at having come to work at the bank (1).

Marsh, Robert M., and Mannari, Hiroshi. "Lifetime Commitment in Japan: Roles, Norms, and Values." American Journal of Sociology 76 (1971): 795-813.

In a successful Japanese electronic appliance company, 1,033 male managerial, staff, and production employees, aged 15 to 39 and over, with job tenure ranging from less than two to more than 20 years, were subjects of a questionnaire study.

Older men with longer seniority and higher education, pay, rank, and job classification tended to experience greater status enhancement (4, pride and feeling of accomplishment in the work and the position), which, in turn, was associated with preferring lifetime commitment behavior for oneself and perceiving it on the part of fellow workers (8).

Meissner, Martin. "The Long Arm of the Job: A Study of Work and Leisure." *Industrial Relations* 10 (1971): 239-260.

A subsample of 206 blue collar industrial workers was selected for analysis from an interview survey of presently working adults in an industrial community of 20,000 on Vancouver Island, British Columbia. The subsample consisted of male, wage-earning employees of a large wood-products manufacturing company; all were union members in occupations below the level of foreman. The study disclosed a consistent negative relationship between technical constraints--machine pacing, spatial confinement, task dependence, and work type (work in central production process as opposed to maintenance or transportation)--and social interaction while actually working (6b). Opportunities for social interaction (6b) were greater in technically more demanding situations, because the more mechanized processes were subject to more frequent breakdown and, at the same time, contained few alternatives for activities during a breakdown other than talking.

For all four types of technical constraints at work--machine pacing, spatial confinement, task dependence, and work type (production)--a higher degree of constraint was associated with a decline in social participation off the job in voluntary organizations (10c), although results were mixed for church membership. The relationship between greater technical constraint on the job and decreased participation in voluntary organizations (10c) was strongest for average number of offices held (the most demanding indicator), which supports the "carry-over" hypothesis that when work does not offer opportunities to develop and maintain skills, the incidence of non-work activities requiring those skills decreases.

More social interaction at work (6b) was positively related to higher rates of participation in voluntary associations other than church (10c), suggesting that social skills maintained at work help meet the demands of voluntary organizational activity. This result also suggests that the "compensatory" hypothesis that workers compensate for the technical constraints and social isolation of the job in their spare time should be rejected.

It was further demonstrated that workers who experienced a high degree of technical constraint at work, with correspondingly slight opportunity for exercising discretion on the job (7), spent less of their time away from work in organized, purposeful activities requiring discretionary skills for choosing and coordinating action (10c, organizations; 10b, hobbies and

"The Long Arm of the Job: A Study of Work and Leisure"
(Continued)

housebuilding; 10, active sports) than did workers who experienced a low degree of constraint at work. High constraint workers spent more time than low-constraint workers in activities that have expressive potential but make very few demands on discretionary or social skills (10a,shopping and listening to TV and radio; 10, fishing, religion, and going for drives) and, to a less pronounced extent, in social activities outside of an organizational context (10, visiting and entertaining visitors, talking, beer drinking; 11, family outings).

Social isolation on the job (6b) was found to carry over into spending less time in sociable activities away from work (10, entertaining, talking, beer-drinking; 11, family outings). Socially isolated workers (6b) also compensated by spending more time in expressive activities away from work (10a, shopping; 10, fishing) of a type that did not demand significant discretionary or social skills.

Meltzer, H., and Ludwig, D. "Memory Dynamics and Work Motivation." Journal of Applied Psychology 52 (1968): 184-187.

Self-perception ratings, projective interviews, and personal and work documents were utilized to study work motivation of 143 semiskilled workers, aged 19 to 78, in a paper mill in upstate New York.

Those workers whose work records, personal histories, and self-projections indicated feelings of security, adjustment, and ability to get along well with others tended to be among the work-motivated (8, those who mentioned their work as part of a list of pleasant memories).

Miller, George A. "Professionals in Bureaucracy: Alienation Among Industrial Scientists and Engineers." American Sociological Review 32 (1967): 755-768.

Relationships between type of organizational structure and professionals' alienation from work were studied among 419 scientists and engineers (scientists defined as those having M. A., M. S., or Ph.D. degrees in math or science; engineers defined as those having M. A., M. S., or Ph.D. degrees in engineering) in two structurally different divisions of one aerospace manufacturing company, one being more bureaucratic.

High alienation (1) was associated with the more bureaucratic work environment: greater organizational control (directive style of supervision; less choice by researcher about type of project on which he works, 7), with perceived low professional climate (professional incentives: 9, low opportunity to obtain professional recognition outside the company; 5, little time provided to work on individual research interests), and with low perceived company encouragement for publishing research results, attending professional meetings, and furthering professional training by attending lectures and classes (5a).

Length and type of professional training was a conditioning factor: alienation (1) was more strongly associated with type of supervisor (directive) and degree of company encouragement (lower) for scientists and professionals with Ph.D. degrees than for engineers and those with less advanced training. Unexpectedly, low freedom of research choice (7) and low professional climate (5; 9) were strongly associated with alienation (1) for all professionals, regardless of length and type of training.

Alienation (1) manifested by engineers may result from their lack of power and participation in organizational affairs (7), whereas alienation manifested by scientists may reflect their lack of autonomy to pursue their work in a way that is intrinsically self-rewarding (5).

Mitchell, Vance F. "Need Satisfactions of Military Commanders and Staff." Journal of Applied Psychology 54 (1970): 282-287.

In a comparison of need fulfillment and perceived deficiencies of need satisfaction between line (command) and staff officers (N = 675) in a United States Air Force overseas command, a questionnaire was administered to line and staff officers at three officer grades: brigadier general/colonel, lieutenant colonel/major, and captain/lieutenant. Staff officers were all working within one or another of five functional divisions: administration, operations, supply, maintenance, and professional.

It was found that commanders at all three officer grades obtained more fulfillment of needs than did their staff counterparts in the areas of security (3), social (6b), esteem (4), autonomy (7), and self-actualization (5). Commanders at all grades were also less dissatisfied than officers in most types of staff assignment. In some comparisons, however, there were greater differences between particular staff assignments than between an individual staff category and command. Needs for autonomy and self-actualization were least fulfilled among operations staff lieutenant colonels and the rank below. The trend for mean dissatisfaction to decrease with higher organizational rank was not found in all groups; there was a tendency for higher-ranking professional and supply staff officers to report more dissatisfaction than captains and lieutenants in need areas of esteem, autonomy, and self-actualization.

Mittlebach, Frank G., and Moore, Joan W. "Ethnic Endogamy---The Case of Mexican Americans." American Journal of Sociology 74 (1968): 50-62.

Male Mexican-American marriage license applicants (N = 7,492) in Los Angeles, in various occupations ranging from professionals and managers through sales personnel and foremen to farm laborers, were studied through analysis of their marriage license applications.

The higher the socioeconomic status of the groom, as measured by occupational status, the higher the rate of exogamy (11, marriage outside the traditional--Mexican-American--group).

Moeller, Gerald H., and Charters, W. W. "Relation of Bureaucratization to Sense of Power Among Teachers." Administrative Science Quarterly 10 (1965): 21-38.

Teachers' sense of power over school system affairs was measured by questionnaires completed by a random sample of 662 elementary and secondary school teachers (questionnaire return rate: 88%) in 20 school systems varying widely in faculty size and degree of bureaucracy. Teacher tenure in the sample ranged from one to twenty years.

Contrary to expectations, teachers in highly bureaucratic systems had a significantly higher sense of power (7) than teachers in less bureaucratic systems.

Higher social class origin was directly associated with sense of power (7), although teachers from farm families had a high sense of power. Male teachers felt a greater sense of power than females, and elementary school teachers higher than secondary teachers. Longer tenure was associated with higher sense of power, as were particularistic relationships with school officials (6b), more common in less bureaucratic systems, and teachers occupying positions of responsibility. A climate of repressive authority, equally common in both kinds of systems, was associated with a low sense of power on the part of teachers. Unexpectedly, the teachers' union proved least effective in enhancing sense of power. Teacher welfare committees were most closely related and professional associations next most closely related to a high sense of power among teachers.

Mohr, Lawrence B. "Organizational Technology and Organizational Structure." Administrative Science Quarterly 16 (1971): 444-459.

Relationships between organizational technology and social structure were examined by means of a questionnaire administered to members of 144 work groups in 13 local health departments, randomly selected from all such agencies in the United States serving populations greater than 400,000. Jobs of work group members included approximately 100 job titles, classified into eight operations technology levels ranging from the lowest, which included janitors and file clerks, to the highest, which included psychologists, dentists, and physicians. All work group supervisors and subordinates had job tenure of at least one year.

Findings did not support the hypothesis that technology, as measured by uniformity, complexity, and analyzability of tasks and materials, is a primary determinant of structure, as measured by participativeness of supervisory style (7, subordinate participation in decision making). Participativeness (7) was, however, related positively to task interdependence and negatively to high noise level (6a).

The study gave no support for the consonance hypothesis that work groups are most effective when autocratic supervision is employed on routine jobs and democratic supervision on nonroutine jobs. On the contrary, supervisory style had a greater impact on work group effectiveness than did degree of consonance: effectiveness was higher when participativeness (7) was high.

Morse, John J., and Lorsch, Jay W. "Beyond Theory Y." Harvard Business Review (May-June, 1970): 61-68.

A study is described and other research discussed to support the necessity of moving beyond Theory Y into "Contingency Theory"; that is, the fit between task, organization, and people, in which the appropriate pattern of organization is contingent upon the nature of the work to be done and on the particular needs of the people involved.

The study was conducted in four organizational units, two of which performed the relatively certain task of manufacturing standardized containers on high-speed, automated production lines, two of which performed the relatively uncertain work of research and development in communications technology. Each pair of units performing the same kind of task was in the same large company, and each pair had previously been evaluated by the company's management as containing one highly effective unit and one less effective one. In the predictable-task category, the effective unit was in Akron containers plant, which had a pattern of highly-structured, precisely-defined formal relationships and duties. In the unpredictable-task category, the effective unit was in Stockton research laboratory, in which formal rules were minimal, loose, and flexible.

Akron's highly-structured formal practices fit its predictable task of container manufacturing because behavior had to be rigidly defined and controlled around the automated, high-speed production line. Stockton's very unstructured formal practices suited its tasks, the unpredictable, rapidly-changing tasks of communications technology research. Under these conditions, the climate in the two effective units also suited tasks better than the climates at the less-successful sites. Employees at Akron perceived a great deal of structure, with their activities tightly controlled and defined (7). By contrast, scientists at Stockton perceived very little structure, with their behavior only minimally controlled (7); these perceptions encouraged the individualistic and creative behavior (5b) necessary for the uncertain, rapidly-changing research task. Scientists in the less-successful laboratory with less "fit," on the other hand, perceived much more structure in their organization (7) and felt that it made it difficult to do effective research (5b).

The two effective plants also differed in perceptions of how influence was distributed and in relations between colleagues or superiors and subordinates. Akron personnel felt they had much less influence over decisions in their plant (7) than Stockton's scientists felt they had in their laboratory. Akron's employees also perceived influence (7) to be concentrated in the upper levels of the organizational structure, whereas at Stockton influence (7) was perceived to be more evenly distributed among more levels of formal structure. Furthermore, Akron's members perceived themselves to have a low degree of freedom in relation to supervisors both in choosing the jobs they work on and in handling the jobs on their own (7); they also saw the supervisory style as relatively directive (7; 6b). Stockton's scientists perceived themselves as having a great deal of freedom in comparison to supervisors (7) in the same task areas and saw supervision as being very participatory (7; 6b).

A competence test administered to subjects in all four units indicated that personnel in Akron and Stockton, where there was a high degree of "fit" between organization and task, had significantly higher feelings of competence (4) than their counterparts in the two lower-fit organizations.

Mulder, Mauk; Ritsema van Eck, Jan R.; and de Jong, Rendel D. "An Organization in Crisis and Non-Crisis Situations." Human Relations 24 (1971): 19-41.

In a study of a seagoing flotilla of the British Royal Navy, subjects were officers (N = 250) and non-commissioned personnel (N = 140) ranging upwards in rank from sergeant major. Method of the study was a paper-and-pencil survey, reports, direct observation, and self-description.

Crisis situations were found to result in direct, task leadership style (associated with decrease in integration of subordinate contributions to decision-making, 7), as well as in less positive relations with subordinates (6b).

Non-crisis situations resulted in social-emotional-directed leadership, associated with integration of decision power (7) and identification, and with reference relationships between superior and subordinate (6b;1).

Murray, V. V., and Corenblum, Allan F. "Loyalty to Immediate Superior at Alternate Hierarchical Levels in a Bureaucracy." American Journal of Sociology 72 (1966): 77-85.

A questionnaire survey was conducted among 360 members of one division of a large public utility. The division's organizational structure incorporated seven levels and 25 groups consisting of a superior and five or more immediate subordinates.

Results indicated that, contrary to Blau and Scott's hypothesis, loyalty to one's superior (8) in a hierarchical organization is not more pronounced at alternate levels; nor was there any relationship between loyalty (8) and the superior's hierarchical independence. A significant relationship was found, however, between subordinate's loyalty (8) and the superior's perception of the subordinate group as the primary source of social support (6b).

National Academy of Sciences, National Research Council, Space Science Board. Human Factors in Long-Duration Spaceflight. Washington, D. C.: National Academy of Sciences Printing and Publishing Office, 1972.

Analysis of behavioral, psychological, and medical factors in long-duration spaceflights (up to two years) by a scientific study group working at the request of the National Aeronautics and Space Administration (NASA) led to a report recommending research priorities prior to long-duration flights.

Common problems of all long-duration spaceflights are: life support in the space environment (2), confinement of several persons in a spacecraft (6a), and isolation of the crew from the outside world in a "microsociety" (6b). Research priorities, based on these problems, are in areas of physical deconditioning and hazards from high-energy cosmic rays (2); long-term effects of isolation, confinement, and sensory restriction on cognitive functioning and retention of skills and mental abilities (5b), sleep and work cycles (2), and interaction among crew members (6b).

Social needs of individual crew members (5 and 6b) and recruitment in terms of personality and compatibility of astronauts are emphasized.

Long preparation period necessary for flights makes it essential to integrate members into the total mission in such a way that they are willing to make a single flight the culmination of a career (9).

Naylor, James C., and Vincent, Norman L. "Predicting Female Absenteeism." Personnel Psychology 12 (1959): 81-84.

Three items normally found on job application blanks were used in an attempt to predict absenteeism among 220 women clerical workers aged between 18 and 58, employed in a large midwestern manufacturing company.

Age and marital status showed no relationship to absenteeism (1), but number of dependents was significantly and positively related to absenteeism (1).

Neal, Arthur G., and Groat, H. Theodore. "Alienation Correlates of Catholic Fertility." American Journal of Sociology 76 (1970): 460-474.

Six hundred eighty-seven Catholic and Protestant mothers aged 28 and over in Toledo, Ohio responded to mailed questionnaires (68.7% response).

Results showed that religion (Catholic vs. Protestant), age of wife, and duration of marriage act as moderating variables on the association between husband's occupation (manual vs. non-manual) and fertility (11, family size).

Nealey, Stanley M. "Determining Worker Preferences among Employee Benefit Programs." Journal of Applied Psychology 48 (1964): 7-12.

The paired-comparison method was used to measure the employee benefit preferences of 1,133 members of a northern California local of the International Brotherhood of Electrical Workers (AFL-CIO) among a pay raise, a union shop proposal to require that all regular employees must be members of the union, a vacation plan, a shorter work week, hospital insurance, and a pension increase. Six categories of "face" data, in addition to the paired comparisons of alternative benefit and payment plans, were included on the questionnaire sent to union members. These were: age, company seniority, rural or urban place of residence, job title or income, marital status, and number of dependent children.

Of all six benefit programs (3), hospital insurance (3) was most preferred and the union shop (3) was second in preference. Next came the 6 percent pay raise (3), the three-week vacation (3), and the pension increase (3), all virtually equally in preference. The shorter work week (3) was a very poor last in preference.

Differences in benefit preference (3) were related to some of the questionnaire variables, but in varying degree. Differences in preference were markedly related to age and seniority and moderately related to physical versus clerical job type, marital status, and number of dependent children. Pension preference rose sharply with age, but the effect did not occur until about age 40. Preference for the other benefit plans, especially the vacation plan, tended to decrease with age, although the union shop lost support only among the oldest age group (60-65). Preference for hospital insurance reached its highest point in the 30-39-year age group, indicating that this group felt the greatest need for family medical protection. Preferences by company seniority were nearly identical to those by age. Job type (clerical workers versus "physical" workers) was a determinant of preference for vacation and the union shop: clerical workers showed much greater interest in vacation than did physical workers, but the reverse was true for the union shop proposal. Preferences for the other four options were largely unrelated to job type. Skill level, among 1,859 employees in "physical" jobs dichotomized as having high or low skill requirements, was the only independent variable examined that failed to show any marked changes in benefit preference (3).

The pension plan was moderately more attractive to the rural-residence group than to the urban group,

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independent of age.

Marital status was dramatically related to preference for hospital insurance, indicating the importance of family responsibility (11) as a determinant. The unmarried group had a higher preference than the married group for the shorter work week. Hospital insurance was more attractive to the group with children. Preference for pension among the groups without dependent children may have been related to the greater mean age of this group. There was little difference between the group with one to two children and the group with three or more.

Some benefit plans -- the union shop, hospital insurance, and the pension plan -- showed striking preference changes with at least two of the subject variables, indicating that these plans did not have universal appeal but were more popular with certain special interest groups. By contrast, preference for the pay raise, although not outstandingly high, remained constant and did not change noticeably with regard to any of the six subject variables.

Nealey, Stanley M., and Goodale, James G. "Worker Preferences Among Time-Off Benefits and Pay." Journal of Applied Psychology 51 (1967): 357-361.

In a heavy-equipment manufacturing organization, 197 blue-collar workers (order fillers and parts handlers; 180 males, 17 females) were subjects of a study using a paired-comparison questionnaire. Age of subjects, in three groupings, was 18-33 (N = 50), 34-49 (N = 83), and 50-65 (N = 64). Sex, age, job tenure, and marital status were found to be associated with preference for a lumped period of time off (10, extra vacation, five Fridays, sabbatical) rather than an equivalent monetary offer of pay raise, shorter work day, or early retirement.

Nelson, Joel I. "Anomie: Comparisons Between the Old and New Middle Class." American Journal of Sociology 74 (1968): 184-192.

In 28 Minnesota communities, survey interviews were conducted with owners (N = 525) and managers (148) working in both privately- and corporately-owned organizations.

Being an owner, as opposed to being a manager, was associated with anomie (10c, normlessness) below a median income range of approximately $10,000. At or above that income level, there was no difference between the owners and managers. For managers, bureaucratic affiliation exerted no effect on anomie (10c). Owners tended to be more reluctant to alter existing relationships with family, community, friends, and the like (10c; 11) than were managers.

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Nogueira, Diego Pupo, M. D. "Accidents During Work and Time of Day." Industrial Medicine and Surgery 40 (1971): 28-30.

Over an eight-year period from 1961-1969, records were kept of 1,572 accidents that took place among 720 shift workers in a textile plant. For each accident, exact time of occurrence was noted, whether it caused loss of work time (6.3 percent of accidents) or not (93.7 percent). The sample was divided into two demographically comparable groups, each of which was studied separately to determine whether their accident behavior was similar. The two groups worked on alternate weeks on morning (6 a.m. to 12:15 p.m.) and evening (12:15 p.m. to 10 p.m.) shifts.

In both groups, there was a higher incidence of accidents (2) at the time of day when biological efficiency was low (highest accident rate in afternoon-evening shift, at hours noon-to-3 p.m.) and a lower incidence of accidents when biological efficiency was high (lowest accident rate in morning shift, between 9 a.m. and 10 p.m.), confirming the hypothesis that the occurrence of accidents during work is related to the "biological rhythm" of increasing and decreasing biological efficiency at various times of day and night.

Oaklander, Harold, and Fleishman, Edwin A. "Patterns of Leadership Related to Organizational Stress in Hospital Settings." Administrative Science Quarterly 8 (1964): 520-532.

A questionnaire was administered to 118 supervisors in three hospitals in the greater New York City area. To be included in the sample, each supervisor had to be a first-line supervisor, responsible for getting work done through at least six subordinates; 118 out of 123 supervisors who met the specifications participated in the study. The three hospitals studied included a large government hospital with more than 1,000 beds, and two general community voluntary hospitals, one with 600 beds, one with 200 beds. The study examined the relationship between the leadership dimensions of Consideration and Structure and two types of organizational stress: intra-unit and inter-unit. For purposes of the study, stress was characterized by interpersonal conflicts, hostility, and noncooperative relationships among organization members. Intra-unit stress refers to the relationships among group members within the supervisor's own department. Inter-unit stress refers to the relationships between departments and with other levels in the organization.

Results indicated that in both government and voluntary hospitals, Consideration (6b, leadership style incorporating mutual trust, respect, warmth, and rapport between supervisor and subordinates, as well as concern for group members' needs; 7, allowing subordinates to participate in decision-making and encouraging two-way communication) was significantly related to lower intra-unit stress (6b, relationships among members in the supervisor's own department). In voluntary hospitals, the leadership dimension of structure (6b; 7: leadership style in which supervisor organizes and defines group activities and his relation to the group, defines the role of each member, assigns tasks, plans ahead, establishes ways of getting things done, and pushes for production) was significantly related to lower inter-unit stress (6b, relationships between departments and with other levals in the organization). Structure, however, was unrelated to inter-unit stress (6b) in the government hospital.

Consideration was not related to inter-unit stress (6b) in either type of hospital. In the government hospital, higher structure was significantly related to lower intra-unit stress (6b). In the smaller voluntary hospital, however, higher structure was associated with higher intra-unit stress (6b).

Among nursing supervisors, high Consideration was related to low intra-unit stress (6b) and high Structure was associated with lower inter-unit stress (6b). The nursing supervisor

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(Continued)

with higher Structure in a government hospital tended to have both lower intra-unit stress (6b) and lower inter-unit stress (6b); in voluntary hospitals, on the contrary, more intra-unit stress occurred (6b). In the government hospital, the non-nursing supervisory groups in hotel and clerical departments were found to have the same patterns of relationships as the nurses: higher Consideration and Structure were associated with low intra-unit stress (6b) but unrelated to inter-unit stress (6b)

Obradovic, Josip. "Participation and Work Attitudes in Yugoslavia." Industrial Relations 9 (1970): 161-169.

Questionnaires were administered to 537 blue collar workers in 20 Yugoslav factories to compare attitudes toward work of those who participated in management through membership in workers' councils and management boards with attitudes of workers of the same education, sex, and occupation who were nonparticipants (nonmembers of workers' councils or management boards). Comparisons were made across three different forms of technology--handicraft, mechanized, and automated--by grouping workers as participants or nonparticipants within each technological category. Data were experimentally controlled for sex, level of education, and (partially) product assortment.

Among nonparticipants in management through worker councils and management boards, both handicraft and automated workers had greater satisfaction with wages (3), physical working conditions (6a), perceived promotional opportunities (9), and perceived control over how one's job is performed than did mechanized workers. Participants among handicraft and automated workers were more satisfied than nonparticipants with wages (3). Participants in all three technologies were more satisfied than nonparticipants with physical working conditions (6a), although the difference was slight for automated workers. Participants in the automated and mechanized technologies had a somewhat greater feeling of control over their jobs (7) than did nonparticipants, but among handicraft workers there was no significant difference between participants and nonparticipants in feelings of control (7), possibly because even nonparticipants have considerable job control.

There was no significant difference between participant and nonparticipant handicraft or automated workers with regard to perception of promotional opportunities (9), but for mechanized workers the relationship was the reverse of the expected: nonparticipants were more optimistic about promotional opportunities (9) than were participants.

Unexpectedly, for all three technological groups, participants in self-management were more alienated (1) than nonparticipants, possibly because of frustrations encountered in the experience with self-management through workers' councils.

The author concludes that participation in self-management should not be overemphasized as a source of satisfaction.

Obradovic, Josip. "Workers' Councils in Yugoslavia." Human Relations 23 (1970): 459-471.

Members (N = 220) and non-members (N = 300) of workers' councils in several Yugoslavian factories were surveyed by questionnaire.

Membership in workers' council was found to result in perception of greater decision-making authority than non-membership (7; 4).

Odaka, Kunio. "Implications of Dual Allegiance in the Modernization of Industrial Relations in Japan." Proceedings of the International Conference on Industrial Relations, Tokyo, Japan, 1965, pp. 97-125.

Types of worker allegiance or "sense of belonging" were examined in two Japanese companies, NKK Steel Tube and SDR Electric. Nine plants of NKK Steel Tube were studied; in SDR Electric, the head office and four branches were study sites. The total NKK sample numbered 1,861 workers; the SDR sample numbered 1,804.

Distribution of allegiance types was found to differ among the different companies and their various plants. The ratio of the "dual allegiance type" (8) with a sense of belonging to both company (8) and union (1) exceeded the 13 percent level in the majority of the total plants of both companies, exceeding 30 percent in six plants. The dual allegiance type was followed by the "discontented type," characterized by withdrawal from support for and antagonistic attitude toward both company and union (1), this type scored over 13 percent in almost half the plants studied. At nine of the plants, this type exceeded 20 percent. The other three allegiance types showed ratios under 13 percent in the majority of plants: the types were the "company-allegiance-unilateral type," who are favorable toward the company but do not support the union; the "nonpartisan type," moderate toward both company and union, and the "union-allegiance-unilateral type," who are pro-union but do not support the company.

Differences in distribution of allegiance type (8;1) were also found among plants and between the two companies. The "dual-allegiance type" (8;1) had high ratios in six NKK ironworks, whereas the "discontented type" had high ratios in three dockyards of the same company. These differences, and differences between the companies, were found to be associated with wage levels (3) as compared to those at other, similar companies; with moderate or militant attitudes of the respective unions; and with working conditions.

Differences were also associated with age and education of workers: young workers with relatively high education tended to be of the "discontented type" (1), including both those who are "rebellious and destructive" and those who have high expectations and ideals and are therefore critical of the status quo but fundamentally loyal (8).

The "dual-allegiance-type" (8;1) was significantly numerous among shop supervisory groups at NKK Steel Tube, whereas the "discontented" type clustered more in white-collar employees and among engineering personnel at SDR Electric. Distribution of allegiance types was generally patterned differently according to the nature of jobs (blue-collar vs. white-collar; conventional machinery with reliance on physical labor vs. more technologically-advanced operation requiring more mental work).

Obrochta, Richard J. "Foremen-Worker Attitude Patterns." Journal of Applied Psychology 44 (1960): 88-91.

A study of foremen-worker interpersonal relationships and worker attitudes investigated two issues: whether, if foreman and worker have favorable attitudes toward each other, they will tend to share attitudes toward company, job, union, and union leaders; and whether, if foreman and worker have unfavorable attitudes toward each other, they will tend not to share attitudes toward company, job, union, and union leaders. Sixty-five foreman-worker "combinations" were selected from a previously-interviewed sample, in order to study reciprocal attitudes. All workers and foremen were employees of Swift and Company; most of the hourly workers were members of one local of the National Brotherhood of Packing House Workers. Data from the nondirective interviews recorded from the larger sample was analyzed

Comparing the attitude ratings of the foremen and workers as a group, the foremen group tended to be slightly more favorable toward the company (8) than the worker group. There was no difference between the groups in favorability toward their jobs (8).

Findings on worker-foremen interpersonal attitudes (6b) indicated that the worker was more favorable toward his foreman than the foreman was to him.

Orden, Susan R., and Bradburn, Norman M. "Working Wives and Marriage Happiness." American Journal of Sociology 74 (1969): 392-407.

Personal interviews were conducted with 1,651 married men and women (not couples) in the Detroit, Chicago, and Washington metropolitan areas. The sample group included a variety of occupations, with educational backgrounds ranging from eighth-grade or below to graduation from college.

It was found that the wife's entering the labor market out of economic necessity rather than choice is associated with the husband's perceiving dissatisfaction in terms of tensions (2), whereas the wife perceives the dissatisfaction as a reduction in the sociability of the marriage (11).

Owens, Constance A. "Sick Leave among Railwaymen Threatened by Redundancy: A Pilot Study." Occupational Psychology 40 (1966): 43-52.

Two samples of British railwaymen -- one threatened by redundancy, the other not threatened -- were subjects of a study to determine whether the threat of redundancy affects the incidence and/or duration of absence on certified sick leave. The study was confined to British Railways wagon repair shops in Merseyside and adjacent areas of southeast Lancashire, to exclude the variable of climatic differences that might affect health. The sample of men threatened by redundancy consisted of all the male employees on certified sick leave from a single large workshop due for closure under British Railways' policy of selective closure; the work force at this shop (N = 668 prior to closure process) was being progressively reduced during the study period (April 4, 1964 to July 3, 1964).

The comparison sample was drawn from a parent population of all the employees in several other wagon repair shops not due for closure; average weekly employee total per shop was 475. The final sample consisted of 41 men threatened with redundancy, 18 not threatened. Information was obtained from the area medical officer for each worker who reported sick or was on sick leave during the study period, as well as demographic data, tenure, diagnosis of illness, dates of sick leave beginning and ending, and nature of worker's job. Age of workers was grouped as follows: 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, and 65 or over. Tenure was also grouped: 5-14 years, 15-24, 25-34, 35-44, and 45 or over. Occupations included skilled workers, semi-skilled workers, and unskilled workers.

Employees with an expectation of security of tenure in their employment (3) were found to have less absence attributed to sickness (2; 1, withdrawal from the work situation) than did those whose future was insecure (3). Furthermore, increased length of sickness absence (1; 2) was associated with the threat of redundancy (3). There was also a marked relationship between length of service in the industry and the incidence and duration of sick leave (1; 2): in the sample not threatened by redundancy (3), absence on sick leave was highest among those with shorter tenure; but in the sample threatened by redundancy (3), although there was little intersample difference among those with fewer years service, the difference was great when men had spent half their working life in the Railways. Since age was not consistently correlated with tenure, the latter finding suggested that for men with long tenure (15 to 25 years) with a single employer, the anticipation of involuntary termination may be traumatic. The

"Sick Leave among Railwaymen Threatened by Redundancy"
(Continued)

trauma may be more severe if the worker is skilled and has a greater investment in his job than if he is unskilled, which could account for the finding that in the sample threatened by redundancy (3), longer absence on sick leave (1; 2) was associated with greater skill. Both length of service and degree of skill were more closely associated than was age with increased incidence and duration of absence on sick leave (1; 2) among men threatened by redundancy (3).

Paine, Frank T.; Carroll, Stephen J., Jr.; and Leete, Burt A. "Need Satisfactions of Managerial Level Personnel in a Government Agency." Journal of Applied Psychology 50 (1966): 247-249.

A mailed questionnaire was used to gather data in a study comparing need satisfactions of 71 managers in field work with need satisfactions of 102 similar managers in central office work with the same government agency. Response rates were 47 percent for field managers and 61 percent for central office managers. The field work managers worked, independently in various communities, usually contacting their central office only by telephone or letter and interacting primarily with non-government personnel in the communities in which they worked.

An additional comparison was made between the 173 government managers and 659 upper-middle managers, using data on the latter collected in a 1962 study by L. W. Porter.

Field managers, who had a less-structured working situation and work relationships, characterized by lack of direct supervision (7), self-scheduling (7), and predominance of non-organizational contacts (6b), felt significantly more satisfied than central office managers with respect to their needs for self-esteem (4), independent thought and action (7), growth and development (5a), and sense of self-fulfillment (5). The social needs (6b) of field managers were not significantly less satisfied than the social needs of the central office managers. Government managers, however, had considerably less need satisfaction than did similar managers from private industry with respect to all items (3, security; 6b, social; 4, esteem; 7, autonomy; 5a, 5, self-actualization), the differences being especially pronounced in the area of security needs (3).

Palmore, Erdman B. "Physical, Mental, and Social Factors in Predicting Longevity." Gerontologist 9 (1969): 103-108.

In a 13-year longitudinal, interdisciplinary study, 268 volunteers aged 60-94 were given an initial two-day series of physical, psychiatric, and psychological examinations, laboratory tests, and social history interviews. During following years, dates of deaths were recorded to show how long subjects lived after initial testing. Subjects at initial examination were all ambulatory, non-institutionalized residents of central North Carolina whose occupational, racial, and sexual distribution approximated that of the area.

The measure of longevity used (13 years after initial testing) for deceased subjects was number of years the subject lived after initial testing. For living persons (N = 147), an estimate of the number of years they will have lived after initial testing was made by adding present number of years since initial testing (approximately 13) to expected number of years now remaining according to actuarial life expectancy tables.

A multiple regression analysis used four variables to predict longevity: (1) actuarial expectancy at initial testing, derived from the standard life expectancy table by age, sex, and race for North Carolina (Public Health Service); (2) physical functioning rating; (3) work satisfaction; (4) intelligence.

The four best predictors of longevity (2) were, in order of importance: actuarial life expectancy, physical functioning, work satisfaction (5, ability to perform meaningful social role; 4, perception of general usefulness), and performance intelligence. Work satisfaction was the best single predictor among men aged 60-69, whereas actuarial life expectancy was the best predictor for both men and women aged over 70. Results suggest that among the younger men in the sample group, maintenance of a satisfactory work role is more important for longevity than their chronological age.

NOTE: For follow-up results of the same study, in which a Longevity Quotient is used to control more effectively for age, see Palmore, Erdman B., "Predicting Longevity: A Follow-Up Controlling for Age," Gerentologist 9 (1969): 247-250.

Palmore, Erdman B. "Predicting Longevity: A Follow-up Controlling for Age." Gerontologist 9 (1969): 247-250.

In a 13-year longitudinal, interdisciplinary study, 268 volunteers aged 60-94 were given an initial two-day series of physical, psychiatric, and psychological examinations, laboratory tests, and social history interviews. Subjects at initial examination were all ambulatory, non-institutionalized residents of central North Carolina whose occupational, racial, and sexual distribution approximated that of the area. During following years, dates of deaths were recorded to show how long subjects lived after initial testing. For those subjects surviving approximately 13 years after initial testing (about 50%), an estimate of the number of years they will have lived after initial testing was made by adding present number of years since initial testing to expected number of years now remaining according to actuarial life expectancy tables based on age, sex, and race.

A Longevity Quotient (observed number of years lived after examination divided by actuarially expected number of years after examination) was used to control for effects of age differences at initial examination. The Longevity Quotient eliminates age as an independent variable, to focus on independent variables of health, attitudes, and activities.

Work satisfaction (5, ability to perform a meaningful social role; 4, general usefulness) is the strongest predictor of longevity (2) when age is controlled by use of a Longevity Quotient (observed number of years lived after examination divided by actuarially expected number of years remaining after examination). Work satisfaction was a better longevity predictor than the other five strongest independent variables: happiness, physical functioning, tobacco use, performance IQ, and leisure activities.

Palmore, James A.; Klein, Robert E.; and Marzuki, Ariffinbin. "Class and Family in a Modernizing Society." American Journal of Sociology 76 (1970): 375-399.

Interview data from a national probability sample of 7,697 Malay, Indian, Pakistani, and Chinese housewives in West Malaysia indicated that modernization (years of school completed by wife, husband's monthly income, and whether current place of residence was rural, small town, or metropolitan) did not cause a decrease in extended-family living (11).

Parker, S. R. "Type of Work, Friendship Patterns, and Leisure." Human Relations 17 (1964): 215-220.

An interview survey of the work experiences and values of 200 men and women provided the opportunity to explore the nature of factors, extrinsic and intrinsic, that influence occupational community. The occupations studied were in two groups: business, in which the prime beneficiaries of the employing organization are its owners; and service, in which the prime beneficiaries of the employing organization are its clients.

The study showed that people in the service occupations were much more likely to have close friends doing the same or related work (10) than were the business people. Two components of the work situation were found to be significantly related to occupational community (10): contact with customers or clients as a major part of the job, and autonomy in the work situation as measured by discretion in decision-making. Finally, having numerous close friends in the same or related work (10) occurred significantly more frequently among those who had work as a central life-interest, among those who were positively identified with their work (8), and among those who would choose the same type of work even without financial necessity.

Parker, Treadway C. "Relationships among Measures of Supervisory Behavior, Group Behavior, and Situational Characteristics." Personnel Psychology 16 (1963): 319-334.

Data on group attitudes and supervisory behavior were collected by means of a set of questionnaires administered to 1,716 foremen, order-pickers, and order-packers in a wholesale pharmaceutical company that operated 80 geographically-decentralized warehouses, located throughout the United States. The warehouse work groups operated under standardized work methods that had been instituted on a company-wide basis. A foreman supervised each group; groups consisted of order-pickers and packers who filled and packed orders from stock shelved in the warehouses. The groups averaged 24 workers; 60 percent of them were unionized.

The study indicated that the supervisory style of "consideration" was correlated with favorable attitudes toward supervision (6b). Warehouse size was positively related to the supervisory style of "initiation" (6b; 7) and negatively related to workers' perceptions that productive behavior was instrumental to job security (3).

Patchen, Martin. "Absence and Employee Feelings about Fair Treatment." Personnel Psychology 13 (1960): 349-360.

Non-supervisory employees (N-487) were the subjects of a study conducted in an oil refinery located in a small Canadian city. The sample was drawn from the approximately 1,500 non-supervisory workers employed at the refinery, the majority of them English or Scottish in ancestry. The largest group (34 percent) of the sample worked in traditional trades, such as carpenter, mason or machinist. Thirty-one percent controlled and regulated actual oil production, and smaller groups of men worked at assembly line jobs, in the laboratory, at common labor and janitorial tasks, and on miscellaneous jobs such as driving trucks.

The study showed that absences (1) among male non-supervisory employees at the oil refinery were negatively related to feelings of being treated fairly in matters related to promotion (9) and pay (3), regardless of how employees perceived their actual chances for promotion.

Patchen, Martin. "Labor-Management Consultation at TVA: Its Impact on Employees." Administrative Science Quarterly 10 (1965): 149-174.

Questionnaire data was collected from a representative sample of non-supervisory employees in most units of the engineering division and power plants of eight administratively separate cooperative programs of the TVA. The study reports data relevant to the impact on employee job attitudes of the TVA's cooperative program of labor-management consultation: it examines the relationship between the vigor of the cooperative program in each unit (i.e., the unit's perceived and actual participation and influence in the program) and the job motivation, interest in innovation, organizational identification, and acceptance of change shown by employees in each unit.

A negative association was found to exist between the vigor of the cooperative program (7) and the general interest in innovation (5) expressed by the members of the unit. There was generally a strong positive association between the vigor of the cooperative program (7) and identification with TVA (8). High employee influence on the immediate work group (7) was also associated with strong identification with the TVA (8); however, the association was stronger for professionals than for non-professionals.

Paul, William J., Jr.; Robertson, Keith B.; and Herzberg, Frederick. "Job Enrichment Pays Off." Harvard Business Review (March-April, 1969): 61-78.

This article reports on five of a number of job enrichment studies carried out and still in progress in Imperial Chemical Industries Limited and other British companies. The studies collectively cover widely different business areas and company functions, as well as many types and levels of jobs; therefore, they offer insights into possible generality of the findings, feasibility of changes associated with job enrichment, and consequences.

In all studies, the "hygiene" was held constant: no deliberate changes were made as part of the investigation; there was an "experimental group" for which specific changes in job content were made and a "control group" for which job content remained the same; and the fact that changes were being measured was kept secret.

In an industrial research department, managers were concerned about the morale of laboratory technicians, or "experimental officers"(EOs) , who were professionally qualified but lacked the doctoral degrees of the scientists. An initial survey of the EO's showed they felt their technical ability and experience was being wasted by the scientists' refusal to delegate anything but routine work. The aim of job enrichment was to develop the EO's into "better scientists." A job enrichment program was implemented involving technical, financial, and managerial additions to the EOs' responsibilities. Of the 40 EOs involved, two sections of the department acted as experimental groups (N=15) and two as controls (N=29). The trial period for the program was 12 months, starting in October and November, 1966. After six months, the same changes were introduced into one of the control groups, to see whether a similar pattern of performance was revealed and thus safeguard against any coincidence in choice of original groups.

Once job enrichment changes were fully implemented in the experimental groups, scientific growth of technicians whose job had been enriched improved significantly in areas of knowledge, comprehension, synthesis, evaluation, original thought, practical initiative, industry, and skill in report writing (5a; 5b), as measured by monthly progress reports of research work done. Although the control groups also improved, they were far outstripped by the experimental groups, and the differential was maintained throughout the trial period. When, after six months, job enrichment was introduced into one of the two control groups, its members improved dramatically in the same

"Job Enrichment Pays Off "
(Continued)

pattern of the original experimental groups.

An associated outcome of the job enrichment program was that EOs from experimental groups initiated a training scheme for themselves, aimed at improving their ability to deal with chemical engineering terminology and ideas (5b; 5a). In addition, one EO's original idea (5b) was followed up -- which was possible because of the changes involved in the job enrichment program -- and resulted in an important discovery related to applications in certain types of national emergency.

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Another British company was threatened by competition and had suffered a decline in its share of the market for its product. The critical problem factor was sales representation, despite the fact that sales representatives' salaries and employment conditions compared well with the industry average and a job reaction survey had shown them to have considerable job satisfaction. A job enrichment program was initiated, involving technical and financial changes aimed at building the representative's job so it was more complete and self-contained. The experimental group (N=15) was chosen to be representative of the entire sales force in age range, experience, and ability. The remainder of the sales force (N=23) acted as control group. Changes were introduced in December, 1967; the trial period ran from January 1 to September 30, 1968.

The sales performance (5b) of the experimental group, working within a job enrichment program that made jobs more self-contained, with less control from headquarters and more individual authority for sales representatives (7), showed a higher rate of improvement than the control group, with the differential increasing as the trial period progressed.

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In the design department of one division of Imperial Chemical Industries Limited, a job enrichment program was instituted for design engineers.

Job enrichment included increased independence for engineers in running their projects (7), decreased obligatory reference to supervision (7), responsibility for choosing consultants (7), removal of arbitrary limits on engineers' authority to spend money on approved projects (7), responsibility for allocations in the project budget (7), involvement in selecting designers (7), and authority to approve staff expenses including overtime and travel expenses (7). As a result of the changes, the supervisors' routine involvement in projects was much reduced (7), allowing them to give more time to technical development. Engineers able to operate independently did so (7); others still needed guidance, but no longer were all engineers restricted for the benefit of some (7). Progress was made in encouraging specialist expertise (5a; 5b) among design engineers.

"Job Enrichment Pays Off"
(Continued)

There were no poor decisions as a result of the new arrangements, nor were there adverse budgetary effects.

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Two studies, one in Imperial Chemical Industries and one in another British company, focused on factory supervisors: production foremen on shift work, fabricating nonferrous metals, and engineering foremen on day work, providing maintenance services. In both companies, the increasing complexity of organizational structures, plants, equipment, and industrial relations had left the foreman isolated; decisions in areas of planning, technical contrast, and discipline were no longer the foreman's, but were passed up the line or turned over to a specialist staff. As a result, some problems escalated unnecessarily, managers were overloaded, and day-to-day relationships between foremen and their men were weakened.

The job enrichment program integrated foremen more into the managerial team: it involved them more in technical planning and consultation (7), gave them more "on-the-spot" responsibility for achievement of plans (4), gave engineering foremen complete control of certain "on cost" budgets, encouraged production foremen to make payment decisions (7), gave production foremen authority to hire labor (7) against agreed manning targets, and gave all foremen increased disciplinary authority (7) and formal responsibility for assessment, training, and development of their subordinates (7), all with the aim of giving the foreman more opportunities for achievement and personal growth on the job. As a result of foremen's disciplinary responsibility, there was a reduction in the number of "repeat offenses" among employees with poor disciplinary records (1) and a substantial reduction in short-term work stoppages. Also, foremen were able to contribute their experience and expertise to solving longstanding technical and organizational problems (5b), with substantial monetary savings for the companies. In addition, there were major improvements in the experimental group's performance assessments; cost savings were achieved by foremen's control of budgets; foremen successfully handled recruitment and training of subordinates; and ineffectiveness of some foremen was revealed, since the situation no longer valued compliance.

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The authors discuss at length the significane of the cases for applying job enrichment in other organizations and job types, the feasibility of such change, and consequences for supervision and management.

Pearlin, Leonard I. "Alienation from Work: A Study of Nursing Personnel." American Sociological Review 27 (1962): 314-326.

Alienation, defined as subjectively experienced powerlessness to control one's own work activities, was examined among the nursing staff of Saint Elizabeth's Hospital, a large federal mental hospital drawing its patients mainly from the District of Columbia. Of the 1,315 nursing personnel who received questionnaires, 1,138 (86 percent) returned usable responses. In addition, ward forms were filled out for 152 of the hospital's 156 wards by people in charge of each ward, giving demographic and psychiatric characteristics of patient ward, employment of ward policies and programs, and staffing policies. Three nursing ranks were represented in the sample: nursing assistants (70 percent of the nursing force), charge attendants, and registered nurses below the position of nursing supervisor.

Alienation (1, subjectively experienced powerlessness) was greatest when authority relations were such as to limit the reciprocal influence of subordinates (7); that is, when the superior simply told the subordinate what to do, rather than asking if the subordinate would do it (making the situation more transactional and allowing more reciprocal influence), or explained to the subordinate why the superior wanted it done (making the subordinate more of a partner to the action and allowing the maximum of reciprocity). This relationship was reflected in situations in which there was great positional disparity (when the person indicated by the respondent as the most important authority figure was many "steps" above the respondent in position in the organizational hierarchy), situations in which authority was exercised in a peremptory fashion (7), and situations in which authority figures were physically inaccessible (6b;7). All of these situations inhibit free interaction between subordinates and their superiors (7;6b) and enhance the sense of powerlessness over one's own affairs (1).

The above-noted findings were modified for some subjects by the characteristic of status obeisance: the value these subjects place on authority for its own sake and the deference they show to those in higher positions. Highly obeisant individuals experienced less alienating impact (1) from situations of great positional disparity, from peremptory authority (7), or from remoteness of authority figures (6b;7)

Limited achievement and advancement in the individual's career experiences within the hospital (9) were also related to alienation, as was dissatisfaction with extrinsic work rewards (3. pay). The alienating effects of limited achievement were considerably reduced if the subject felt adequately remunerated (3) for his work, and high achievement did not absolutely insure against alievation if the subject was dissatisfied with his pay.

"Alienation from Work: A Study of Nursing Personnel"
(Continued)

Finally, personnel working in isolation (6b), most prevalent during night and rotating shifts, were more subject to alienation than those experiencing less aloneness during work (day and evening shifts). Those who lacked outside social ties (10) to fellow workers also were more subject to alienation than those who had such friendships.

Penzer, W. N. "Education Level and Satisfaction with Pay: An Attempted Replication." Personnel Psychology 22 (1969): 185-199.

A questionnaire survey was conducted with 1,600 employees of a national marketing association in 86 locations across the United States, in an attempted replication of a 1966 study by S. M. Klein and J. R. Maher that showed higher education to be associated with dissatisfaction with salary. The sample was in three status groups: professionals exempt from the Fair Labor Standards Act (38 percent), managers (18 percent), and non-exempt employees (44 percent), in two educational groupings--college and non-college--and two age groups: under 40 and 40-or-over. Jobs represented included stock room clerks, typists, teachers, technicians, salesmen, and marketing executives. Salary range was from $400 per month to more than $2,000 per month. Seventy-five percent of the sample were men.

Dissatisfaction with salary (3) in external terms of what salary the employee could get at some other company was found to be related to more formal education (college) and age (younger/under 40), with the relationship especially strong for professionals. For professionals, dissatisfaction with salary (external) was also related to low internal optimism about being promoted to a better job within the company (9), which was associated with less education.

For managers, high internal optimism (9), associated with college, was related to high satisfaction with salary (3) in internal terms of whether pay was commensurate with duties and responsibilities of the job.

Dissatisfaction with salary both externally and internally was related to high optimism about external opportunities to find a comparable salary in another company (associated with college education).

When results were controlled for external and internal optimism, the difference between college and non-college groups on satisfaction with salary (externally rated) disappeared, indicating that the differences were largely due to differential expectations by the college group.

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Pfeiffer, Eric. "Physical, Psychological, and Social Correlates of Survival in Old Age." In *Prediction of Life Span*, edited by Erdman B. Palmore and Frances C. Jeffers, pp. 223-236. Lexington, Massachusetts: D. C. Heath and Company, 1971.

From a previous Duke University longitudinal study of sexual behavior in old age, which used a sample of 260 community volunteers, a "longevous elite" subgroup was identified (N = 17 men, 17 women) and matched for age and sex with an equal number of subjects, drawn from the same panel, who represented the opposite extreme with respect to longevity (had been the first to die below age 80 among the larger sample). The long-lived subgroup had an average age of 77. Throughout the study, long-lived men were compared only with short-lived men and long-lived women with short-lived women. Subjects were categorized according to whether their principal occupation (or their husband's principal occupation, for married or formerly married women) had been manual or nonmanual.

Comparison between long-lived and short-lived groups of women and men showed significantly fewer long-lived women (2) who had done manual work as their principal occupation. There were fewer long-lived men, also, in the manual category, but the difference barely missed attaining statistical significance. Longevity (2) for men was also positively associated with a high self-assessment of present financial position ("wealthy" or "well-to-do") and with a financial change self-evaluation indicative that they were in as good a financial position as they had been at age 55.

Pheysey, Diana C.; Payne, Roy L.; and Pugh, Derek S. "Influence of Structure at Organizational and Group Levels." Administrative Science Quarterly 16 (1971): 61-72.

Effects of organizational structure were tested by comparing groups of top and middle managers and first-line supervisors in two British organizations similar in production process but contrasting in structure: one highly mechanistic (activities structured through division of labor, standardized procedures, and written specifications; high role prescription; centralized authority), the other significantly less mechanistic. Interviews were conducted with senior managers for information on organizational structure and context, with members of selected groups for data about individual jobs, personnel interdependence, and individual job satisfaction; sociometric and other questionnaires were administered.

In a more mechanistic organization, relationships of group members were more formal at all hierarchical levels (6b), all groups saw themselves as having less autonomy (7), and groups at lower levels of the hierarchy had lower task complexity (5b), although jobs at the top of the hierarchy were more complex. In the less-mechanistic organization, lack of standard procedures and formalized routines led to complex tasks (5b) for groups at all levels; considerable responsibility was delegated even to the lowest level (7); and the group at the lowest level saw itself as having the most complex tasks (5b).

Unexpectedly, although the groups in the mechanistic organization saw organizational climate as more oriented toward rules and conventionality than did groups in the non-mechanistic organization, groups in the mechanistic organization also saw the climate as more developmental (5, stimulating innovativeness). High developmental climate (5) in the mechanistic organization was associated with high perceived group involvement (8), which was related to satisfaction with promotion opportunities (9). Perceived internal pressures, associated with high "control press," were related to satisfaction with the work, suggesting that the pressures were "achievement pressures" rather than conflict pressures.

Porter, Lyman W. "A Study of Perceived Need Satisfactions in Bottom and Middle Management Jobs." Journal of Applied Psychology 45 (1961): 1-10.

Perceived deficiencies of need fulfillment and importance of needs among bottom- and middle-managers were studied in three companies: Company A, a large, nationwide manufacturing organization (the plant studied employed over 1,000 workers); Company B, a nationwide food processor-distributor; and Company C, a medium-sized utility firm. The questionnaire response rate was 53 percent in Company A, 70 percent in Company B, and 60 percent in Company C. Questionnaire respondents were 139 managers, of whom 64 were first-level supervisors or foremen and 73 were in middle-management.

Bottom-level managers (first-level supervisors and foremen), more frequently than middle managers, reported deficiencies in need fulfillment in the areas of security (3), esteem (4, self-esteem, prestige inside and outside the company), and autonomy (7, opportunity for independent thought and action, opportunity for participation in goal-setting). The differences between the two management levels were present not only when the data from all three companies were combined but also when the data were analyzed company by company: the differences occurred in each of the companies.

There were no significant differences between management levels on the relative importance of the various need categories. For both management levels, the two areas of greatest importance were self-actualization (5a, opportunity for personal growth and development; 5b, fulfillment from being able to use one's unique capabilities and realize potential, feeling of worthwhile accomplishment) and security (3).

Porter, Lyman W. "Job Attitudes in Management: I. Perceived Deficiencies in Need Fulfillment as a Function of Job Level." Journal of Applied Psychology 46 (1962): 375-384.

Perceived need fulfillment deficiencies in 1,916 managerial positions were investigated by means of a questionnaire incorporating 13 items in a Maslow-type need hierarchy system. Of the 6,000 randomly-sampled managers, nationwide, the response rate was 33 percent. Respondents represented all levels of management (president, vice-president, upper-middle, lower-middle, and lower) and a wide variety of companies: 66 percent manufacturing, 7 percent transportation and public utilities, 7 percent finance and insurance, 5 percent wholesale and retail trade, and 15 percent other types.

Need fulfillment deficiencies in three of five categories -- esteem (4, self-esteem, prestige), autonomy (7, authority, participation), and self-actualization (5a, opportunity for personal growth and development; 5b, feeling of worthwhile accomplishment and of self-fulfillment in terms of being able to use one's unique capabilities and realize potentialities) -- progressively increased from the top to the bottom of the management hierarchy. For the other two, lower-order needs, security (3) and social (6b), there were no systematic changes in fulfillment in relation to management level. These overall findings were supported in each of the four age groups (20-34, 35, 44, 45-54, and 55+), showing that the trends were not merely a function of higher-level managers being older, on the average, than lower-level managers.

Self-actualization (5a; 5b; 5) and autonomy (7) need areas consistently ranked first and second, respectively, in terms of size of mean deficiencies, in nearly all subgroups of respondents. Social (6b) and security (3) need areas showed the smallest deficiencies. The different managerial levels produced similar rankings of the five need areas in terms of deficiencies, with some exceptions. One was the level of president, where deficiencies in social needs had relatively higher ranks and deficiencies in autonomy needs lower ranks than at other management levels. Also, deficiencies in esteem needs tended to receive somewhat higher ranks at lower management levels, compared with upper levels. Deficiencies in security needs (3) tended to rank higher for older than for younger individuals, except at the chief executive level; whereas deficiencies in social needs (6b) tended to rank higher for younger compared to older manager groups at most levels.

Porter, Lyman W. "Job Attitudes in Management: II. Perceived Importance of Needs as a Function of Job Level." Journal of Applied Psychology 47 (1963): 141-148.

A questionnaire incorporating a Maslow-like need hierarchy was completed by 1,916 managers from a nationwide random sample. The sample included five management-level categories: president, vice-president, upper-middle, lower-middle, and lower. Managers were from a wide variety of companies: 66 percent manufacturing, 7 percent transportation and public utilities, 7 percent finance and insurance, 5 percent wholesale and retail trade, and the remaining 15 percent from other types.

Some relationship was found between vertical level of position within management and degree of perceived importance of needs in the areas of security (3), social (6b), esteem (4, self-esteem, prestige) autonomy (7, authority, participation) and self-actualization (5a, opportunity for personal growth and development in one's position; 5b, feeling of self-fulfillment in the position in terms of being able to use one's unique capabilities and realize one's potentialities, feeling of worthwhile accomplishment). Higher-level managers tended to place relatively more emphasis on self-actualization and autonomy needs than did lower-level managers. For security, social, and esteem needs, however, there were no differences between responses from higher-level versus lower-level managers.

Of four age groups (20-34, 35-44, 45-54, and 55+), the over-55 age group deviated somewhat from the other three in some specific trends: this group's trend was reversed for security and was very weak on self-actualization compared to that of the other three age groups. In the social need category, one item, "opportunity to give help to other people" (6b), became increasingly important at higher levels of management, but another social need item, "opportunity to develop close friendships" (6b), decreased in importance at higher management levels.

Porter, Lyman W. "Job Attitudes in Management: III. Perceived Deficiencies in Need Fulfillment as a Function of Line versus Staff Type of Job." Journal of Applied Psychology 47 (1963): 267-275.

This study investigated differences in perceptions of the degree of fulfillment and importance of several types of psychological needs in relation to an aspect of horizontal differences among management positions; namely, line versus staff jobs. A questionnaire incorporating a Maslow-type need hierarchy was mailed to a nationwide random sample of 6,000 managers; a sample of 1,802 managers was obtained. Approximately two-thirds of the sample came from manufacturing companies, the remainder from nonmanufacturing organizations. Respondents were cross-classified by line or staff type of job and by level of management position, at four levels: vice-president, upper-middle, lower-middle, and lower.

Line managers perceived greater fulfillment than staff managers of needs in the areas of security (3), social (6b), esteem (4, self-esteem, prestige inside and outside the company), autonomy (7, authority, opportunity for independent thought and action, participation in goal-setting, and participation in determining methods and procedures), and self-actualization (5a, opportunity for personal growth and development; 5b, feeling of self-fulfillment from using one's unique capabilities and realizing potentialities, feeling of worthwhile accomplishment). The largest differences between line and staff managers occurred in the need areas of esteem (4) and self-actualization (5a, 5b).

Line and staff managers did not differ in the importance they attached to each type of need, except that line managers considered autonomy (7) more important. The variable of vertical level of position within the management hierarchy had a greater effect on perceived deficiencies in need fulfillment than did the variable of line versus staff job types.

Porter, Lyman W. "Job Attitudes in Management: IV. Perceived Deficiencies in Need Fulfillment as a Function of Size of Company." Journal of Applied Psychology 47 (1963): 386-397.

A nationwide sample of 1,916 managers provided questionnaire data for a study of the relationship between size, of organization and perceptions of need satisfaction and need importance in management jobs. Respondents represented a random 10 percent sample of the American Management Association and a random sampling of a nonmember mailing list of the association; they were employed in a wide variety of companies, of which about two-thirds were manufacturers and the remainder were in transportation, insurance, banking, public utilities, and wholesale and retail trade. Company size was classified according to responses concerning number of employees, in a range of 10 sizes; the sample was subsequently divided into company size categories of large, medium, and small. Respondents' vertical level of position within management was classified in five levels: president, vice-president, upper-middle, lower-middle, and lower.

At lower levels of management (lower-middle; lower), managers in small companies were more satisfied than managers in large companies in need areas of security (3), social (6b), esteem (4, self-esteem, prestige inside and outside the company) autonomy (7, authority, opportunity for participation, opportunity for independent thought and action), and self-actualization (5a, opportunity for personal growth and development; 5b, feeling of self-fulfillment from using one's unique capabilities and realizing potentialities, feeling of worthwhile accomplishment). At higher levels of management, however (vice-president; upper-middle), managers in large companies were more satisfied in those need areas than were managers in small companies. Results at the president level were unclear due to lack of an adequate sample of presidents of large corporations and the relatively small sample of presidents of middle-sized firms.

Size of company had little relationship to perceived importance of the various needs.

Porter, Lyman W., and Mitchell, Vance F. "Comparative Study of Need Satisfactions in Military and Business Hierarchies." Journal of Applied Psychology 51 (1967): 139-144.

In a large overseas command of the U. S. Air Force, questionnaires were completed by military personnel at three levels of rank; results were compared with results of an earlier study of civilian managers at three hierarchical levels. The military sample consisted of 22 men at the level of brigadier general/colonel, 212 at the level of lieutenant colonel/major, and 464 at the level of captain/lieutenant. The civilian sample included 611 vice presidents, 659 upper-middle managers, and 431 lower-middle managers.

Occupying a top hierarchical military position (brigadier general, major, lieutenant) as compared to a comparable civilian managerial position (vice president, upper-middle management, or lower-middle management) is associated with lower perceived need fulfillment (based on a mean analysis of Maslow's need hierarchy) and is also associated with a higher mean dissatisfaction for each need category: security (3), social (6b), esteem (4), autonomy (7), and self-actualization (5).

Powell, Reed M., and Schlaeter, John L. "Participative Management: A Panacea?" Academy of Management Journal 14 (1972): 165-173.

A 5 1/2-month field experiment among skilled construction and electrical field crews of the Ohio Department of Highways, Bureau of Traffic, tested effects of increased participation in the decision-making process in a non-industrial setting without economic incentives. Six crews were allowed varying degrees of participation in developing monthly, bi-weekly, and tri-monthly schedules for their statewide electric utility installation work. Three distinct degrees of participation were employed, with two crews participating at each level: first-degree crews indirectly determined their work schedule through their supervisor; second-degree crews conferred directly with a representative of the Operations Division; third degree participants assumed entire responsibility for work schedules. Changes were introduced in a management directive; participants were unaware of experimental nature of the innovations. Change in morale was measured by a questionnaire employing Herzberg's maintenance and institutional need concepts, administered before and at the conclusion of the experiment, and by comparison of crew records on sick leave during the experimental period with those before the experiment. Opinions on morale were elicited from employees by both immediate supervisors and higher-level supervisors. Crew productivity was measured by comparing productivity during the experimental period with several preceding periods of equal duration.

First-degree participation (7) proved to be associated with no significant improvement in morale (8, "involvement") and with slight but not statistically significant improvement in performance. Second-degree participation (7) also was associated with no significant improvement in morale (8) and with a slight but not significant gain in performance. Third-degree participation (7), however, was associated with a marked improvement in morale (8) in attitudes toward both motivational and maintenance factors of the work but was also associated with increased performance in both groups, significantly so for one of them. Despite the improvements in morale evidenced both on questionnaires and in comments of supervisors (who felt morale of the crew as a whole had improved during the experiment), five of the six participative crews increased their manhours absent each week (1).

Questions raised by the study include the possibility that the particular environment might mitigate against behavioral incentives; that the personality of the typical operative drawn to employment in public administration agencies differs from that of the typical industrial employee; or that the absence of an economic incentive was significant.

Purcell, Theodore V., and Cavanagh, Gerald F. "Alternative Routes to Employing the Disadvantaged within the Enterprise." Industrial Relations Research Association, Proceedings of the 22nd Winter Meeting, December 29-30, 1969, pp. 66-77.

Two methods of bringing disadvantaged people into the work force were examined in two companies, the 4,500-employee General Electric Hotpoint plants in Chicago and the Raytheon Company near Boston, which is a large electronics firm 55 percent committed to government contracts. Both companies participated in National Alliance of Businessmen (NAB) programs, but with major differences in type of program. General Electric participated under the NAB pledge, in which an enterprise promises a certain number of jobs for the hardcore poor and exerts special employment efforts but with no special support for the new, disadvantaged employees. Raytheon used the method of strong support, including a training program (the Raytheon Job Training Center) designed to equip trainees with techniques for dealing with the industrial environment, as well as with job skills in demand in the local area. Researchers took two samples of NAB employees at Hotpoint, those who stayed and those who left; at a key Raytheon plant, they carried out an interview field study of 50 employees, consisting of 12 training program graduates, a random sample of their fellow workers, and all their supervisors.

Despite GE's offer of steady jobs and good pay, nearly two-thirds of disadvantaged black NAB employees soon left (1). Very little difference was found between those who left and those who stayed in sex, age, marital status, number of dependents, arrest record, or race. Pay upgrading (3), however, was significantly associated with turnover (1): for those who stayed, GE's pay was a big step up from the pay on their previous jobs (3), whereas, for those who left, the GE increase was minor. A second significant difference was place of birth: those NAB employees who were from the rural South were more likely to stay. Of those who stayed, only 20 percent were born in the north-central states; 45 percent of those who left were born in the urban north.

Major motivations for leaving (1) and absenteeism (1) cited by GE's disadvantaged workers included inadequate relationships with supervisors (6b), the distrust, anger, and restlessness of youth (1), frustration with assembly-type work as monotonous, uncreative (5a), and dead-end (7;9); easy availability of other jobs in the Chicago areas or attraction of easier money through welfare or crime; and false expectations about wages (3) or failure to understand the incentives (3).

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At the Raytheon plant, where a training program for disadvantaged workers was carried out to provide them with skills and prepare them for the work environment, the turnover rate (1) of 34 percent was lower than at GE and was also lower than the national dropout rate. Foremen were generally content with the graduates'

"Alternative Routes to Employing the Disadvantaged within the Enterprise"
(Continued)

work quality, but not with their absenteeism (1), and, unlike conditions at GE, fellow workers are not resentful of the NAB workers (6b). The job training program was found to be associated with the relatively better results of Raytheon's NAB participation in that it prepared the trainees for good interpersonal relations (6b) -- important to disadvantaged people -- as well as providing skills training (5a). Graduates of the Raytheon training program cited skills training as more important to them than any other aspect of the program.

Read, William H. "Upward Communication in Industrial Hierarchies." Human Relations 15 (1962): 3-16.

In three major industrial organizations in the United States, one operating unit was selected in each company as a source of subjects. In each unit, subjects were selected at random from the third level of supervision (the supervisory level that was separated from the non-supervisory employees by two intervening levels). For each of the third-level supervisors, a corresponding subordinate was chosen from the second line of supervision: 52 superiors and their 52 respective subordinates.

The upward mobility aspiration (9) of a young executive was found to have a significant negative association with the accuracy with which he communicated problem-related information upward in industrial hierarchies. The relationship was found to be conditioned or modified by the degree of interpersonnel trust (6b) held by the executives for their superiors and by the degree to which the superiors' influence is perceived (7) by their subordinates.

Ritchie, J. B., and Miles, Raymond E. "An Analysis of Quantity and Quality of Participation as Mediating Variables in the Participative Decision Making Process." Personnel Psychology 23 (1970): 347-359.

Questionnaires were administered to a sample of 330 managers representing five hierarchical levels, from divisional manager through first-line supervisors, working in six geographically-separated operating divisions of a privately-owned, hierarchically-structured West Coast firm that strongly believed in participative decision making.

Results indicated that the amount of perceived participation in the decision process on the part of the subordinates (17), as well as the superiors' being highly confident of their subordinates' capabilities, were associated with high feelings of satisfaction on the part of the subordinates in regard to their relationships with their superiors (6b).

Rizzo, John R.; House, Robert J.; and Lirtzman, Sydney I. "Role Conflict and Ambiguity in Complex Organizations." Administrative Science Quarterly 15 (1970): 150-163.

A questionnaire was administered to 160 managerial and technical employees (excluding salesmen), first-level foremen, and clerical personnel in the central offices and research-and-engineering division of a large manufacturing company.

Goal conflict and inconsistency, delay in decisions, distortion and suppression of information, and violations in the chain of command tended to be associated with high role conflict (1) and role ambiguity. Personal development (5a), formalization, adequacy of communication, planning, and horizontal communication, top management receptiveness to ideas (7), coordination of work flow, adaptibility to change, and adequacy of authority tended to be associated with lower role conflict (1) and role ambiguity.

Roche, William J., and MacKinnon, Neil L. "Motivating People with Meaningful Work." Harvard Business Review (May-June, 1970): 97-110.

From 1966 to 1968, the authors of this report worked with more than 1,500 workers and supervisors (from a work force of 4,000) in two divisions of Texas Instruments Incorporated of Attleboro, Massachusetts, in an action program to make work more meaningful through participation of workers in identifying and solving problems that affect them, cooperation of supervisors in encouraging and maintaining the participative attitude of the workers, and commitment by top management to the program's value. The core of the program was a continuous cycle of meetings run by a group of workers and their supervisor, in which the group identifies problems associated with its work, assigns responsibility for solving them to one member of the group (either supervisor or worker), and hears reports from members on progress toward solving problems identified in earlier meetings. The supervisors were required to accept and use a new (Theory Y) managerial style, and the workers must accept considerable, new responsibility. Theories behind the program were: work simplification, motivation-maintenance theory, and Theory Y. Supervisors (foremen, general foremen, and superintendents) participated in an orientation and retraining program prior to initiating the cyclical meetings.

The action program incorporating worker participation and decision-making (7) and changes in managerial style based on Theory Y concepts (6b; 7) resulted in workers becoming actively and creatively involved in identifying and solving problems connected with their work and developing improved methods, based on their knowledge of work processes (5a; 5b; 7). Ultimately, groups were able to set their own production goals (7). The most effective groups became self-motivating, taking on more and more managerial functions (7; 5b). Not all groups, however, were successful, and some supervisors rejected the meaningful-work program because they felt it threatened them personally.

Ronan, W. W. "Work Group Attributes and Grievance Activity." Journal of Applied Psychology 47 (1963): 38-41.

Hypotheses about the relationship between grievance submission and the nature and setting of work activity were tested in two plants of a manufacturing company, essentially a "job shop" producing heavy processing equipment for the metals industry. The older of the two plants (in operation for more than 50 years) had 2,850 shop employees; the newer (five-year-old) plant had 850. The newer plant was unionized, the older was not, but both had a formal grievance procedure. All formal written grievances for both plants for the years July 1957 through June 1961 were obtained and analyzed.

Employees in the sample were categorized into two groups, based on attributes taken on by work groups in relation to the nature and setting of the work they perform. The groups were: Strategic-Conservative (S-C), and Apathetic-Erratic (A-E).

The particular plant within the company was found to affect the number of grievances submitted (1): the newer, smaller, unionized plant had significantly higher grievance submission than the older, larger, non-unionized plant . There was no difference, however, in the number of grievances (1) submitted by the two groups: the Strategic-Conservative, characterized by semiskilled or highly-skilled work done mostly on an individual basis, non-interdependent, requiring considerable individual judgment and looser standards (7), having relatively high status and importance in the organization, involving scarce, critical skills requiring long training or experience, practiced mostly by skilled craftsmen, cranemen, inspectors, and other skilled workmen; and the Apathetic-Erratic, characterized by less-skilled or unskilled work, often dirty, dangerous, more or less "physical," done either by individuals, on a "crew" basis with the crew cooperating in a common work task, or in an assembly line in which work flows to another group but with little communication between the groups. The Conservative-Strategic group, however, "won" more grievances (1) and lost fewer than did the Apathetic-Erratic group.

There was no difference in the goals of the grievances submitted by the two groups nor in the rate of grievance submission.

The fact that more than one-third of the grievances of the new plant were submitted in the first year is interpreted to show that "newness" is an important variable in grievance submission and that the "normal" grievance pattern may not have been established.

"Work Group Attributes and Grievance Activity."
(Continued)

The study, although it supported some of the observations of J. R. Sayles (1958), cast doubt on his observation that amount and nature of grievance activity is a measurable attribute of work groups such as those described.

Ronan, W. W. "A Study of and Some Concepts Concerning Labor Turnover." Occupational Psychology 41 (1967): 193-202.

Exit interviews (primarily unstructured) were conducted with 91 persons voluntarily leaving employment with a British manufacturing firm during 1960-1964. The sample included shop workers, office and clerical workers, and those in administrative and professional positions. Interviews were conducted by a staff member of the personnel department.

Among reasons for leaving the company (1), salary (3) was the major, first-mentioned reason among office and clerical workers and among administrative and professional personnel. For shop workers, job security (3) was mentioned first by approximately 50 percent of workers quitting (1). In all, 57 percent of first mentions of reasons for quitting concern pay aspects of jobs. Employees with short tenure (less than one year), however, were much less likely to emphasize pay (3) as a reason for leaving (1) and gave other reasons with about equal frequency: recognition (4), interpersonal relations with supervisor (6b), technical supervision (7), work conditions, the work itself, and company policy and administration.

In "second mentions" of reasons for leaving (1), obtained by further questioning after the person had given his "first mention" reason, insufficient recognition (4) and achievement (5) were important among male office/clerical workers and among administrative and professional employees; and growth possibility (9) was important among administrative and professional employees.

Ronan, W. W. "Individual and Situational Variables Relating to Job Satisfaction." Journal of Applied Psychology 54 (1970):

A factor analysis of job satisfaction in a large manufacturing organization in the southeastern United States utilized 18 measurable behavioral characteristics, 4 known demographic characteristics, and a 32-item questionnaire. The questionnaire was slightly varied for three different sample classes of employees: managerial-supervisory (N = 1,311; 63.9% return rate); salaried employees (N = 3,653; 65.3% return); and hourly employees (6,192; 33.8% return).

Supervisory characteristics and styles (lack of recognition of and action on complaints, with high employee/supervisor ratio), along with poor physical work environment (6a, equipment, supplies, and material) were found to result in higher rates of absence (1), infirmary calls (2), terminations of hourly employees (1), medical claims (2), and also in higher wages.

Among both salaried and hourly employees, working in large units having predominantly male, hourly employees, high employee/supervisor ratio, and supervisors who were young, had short tenure, and were poorly paid and educated was associated with high rates of absence (1), infirmary calls, and medical claims (2); terminations of hourly workers (1); lost time due to accidents (2); and higher wages (3).

Highly educated supervisors and salaried workers saw their futures with the company as good (9). Poor supervisors (in technical terms and in terms of planning skill, communication, and, 7, refusal to allow workers to make decisions about their own jobs) were associated with salaried employees feeling that they lacked prestige (4), that there was no chance of promotion (9), and that there was a lack of cooperation (6b).

Old, established departments having a high percentage of male hourly workers tended to have high rates of tardiness (1) but low rates of infirmary calls and medical claims (2).

In isolated units with poor information flow, staff managers and lower-level supervisors tended to feel "left out" (1).

Rothe, Harold F. "Output Rates Among Welders: Productivity and Consistency Following Removal of a Financial Incentive System." Journal of Applied Psychology 54 (1970): 549-551.

In a midwestern manufacturing firm, a longstanding financial incentive system for welders was discontinued at union request as part of a collective bargaining settlement. Despite a wage increase, the welders all received less take-home pay after the settlement because of loss of incentive earnings. A productivity study was conducted during 48 weeks after the settlement, using productivity data from company records.

Evidence from the study indicated that incentives to work had changed from financial to social ones (6b) and that foremen's leadership methods had improved because it was necessary to communicate with workers (6b) about their productivity.

Ruda, Edward, and Albright, Lewis E. "Racial Differences on Selection Instruments Related to Subsequent Job Performance." Personnel Psychology 21 (1968): 31-42.

In a study of 1,034 Negro and Caucasian applicants (males and females) for positions in a large office, it was found that for both racial groups, high scores on the Weighted Application Blank (WAB) were positively correlated with a tendency to remain on the job (8). High Wonderlic Personnel Test scores were associated with turnover for the Caucasian applicants (1), whereas there was no relationship found between Wonderlic scores and turnover (1) for the Negro sample.

Rus, Veljko. "Influence Structure in Yugoslav Enterprise." Industrial Relations 9 (1970): 148-160.

Seven studies conducted in Yugoslavia from 1964 to 1969 are summarized, all testing whether the shift in formal control in Yugoslav enterprises--to enterprise management by worker-elected workers' councils--has in fact led to corresponding change in the distribution of influence within the organization. All studies made use of control graphs measuring perceived and active influence, based on questionnaire responses. Samples ranged from the largest, drawn from the entire Slovenian Republic and including 1,990 respondents from 92 enterprises, to the smallest, consisting of 56 workers attending a two-year course at the Workers University in Zagreb. Occupational groups included top management, middle management, supervision, staff (professional services), and workers ranging from the highly skilled to unskilled.

The typical control graph for nationalized Yugoslav enterprises with workers' councils (participative management) differed little from its American (privately owned) counterpart: managers saw less influence throughout the enterprise (7, believe things are more out of control) although they gave the workers' council greater credit than do the workers themselves (7). In all seven situations studied, influence was seen as concentrated in top management (7); although the workers' councils formally make decisions on all business matters, they were seen as exerting less influence (7) than either top management, staff, or even middle management. Skilled workers were seen as having more influence (7) than the unskilled.

Overall, desired worker influence (7) was greater than perceived influence. In 1964 and 1966, workers felt the proper distribution of influence (7)--greatest influence for workers' council, slightly less for workers, and least for management--was very different from the perceived actual distribution of influence. By 1968, however, after a longer time under participative management, these aspirations had weakened: workers still desired a reduction in the degree of perceived inequality of influence (7) but felt top management should have influence almost equal to the workers' councils and were resigned to workers having least influence of all. Management, also, moved toward acceptance of inequality or centralization of influence. As compared to low paying companies, high paying organizations had both greater inequality of perceived influence (7) and greater total influence. Influence distribution, however, was not affected by technology: distribution of influence was nearly identical for enterprises in different industries and with different degrees of mechanization.

"Influence Structure in Yugoslav Enterprise"
(Continued)

Workers' council members generally saw top management as having the greatest influence (7) within the council and worker members as having less. In a number of plants, attempts were made to rectify this inequality by creating subsidiary workers' councils at the middle management level, with the result that the subsidiary councils became controlled by middle management, increasing middle management's power (7) and blocking communications between workers and top management (7); also, functional specialization and division of labor were inhibited and feedback between top and bottom levels of organization (7) slowed down.

Overall, organizational effectiveness seemed to be related to a balance between influence exerted (7, the perceived extent of influence that any one group has on the organization as a whole) and influence received (7, extent to which various groups are seen as subject to influence from other groups in the organization).

Rushing, William A. "Class, Culture and 'Social Structure & Anomie.'" American Journal of Sociology 76 (1971): 857-873.

Interviews were conducted with 239 male farmers and 539 male farm workers on privately-owned farms in Washington. Median education of the farmers was 12 years; median education of the farm workers, seven years. The sample included both Anglos and Mexican Americans.

Being a farmer was associated with having a higher aspirational level of educational achievement for one's offspring than being a farm worker (11). Being a farm worker, however, was associated with a greater disjunction between desired and perceived potential for higher aspiration for offspring, which results in greater normlessness in farm workers than in farmers (10c, alienation from community involvement).

Sainsaulieu, Renaud. "Incidences du Changement Technique." Personnel (Paris), No. 123 (1969): 16-26.

Eighty workers and supervisors in a large, nationalized factory in France were the subjects in a study of consequences of a technological change: introduction of electrical tools for machinery maintenance. Informal interviews, field observation of work teams, and a questionnaire on interpersonal selections were used to gather data.

The use of electrical tools for maintenance of machinery was introduced in association with management-designed changes: three-to-six-month training sessions for workers and supervisors; formation of specialized electrical and mechanical work teams; inter- and intra-team job rotation, with specialization and task descriptions developed in collaboration with workers (7), and abolishment of punishment for work errors. These changes were found to be associated with the following behavior among workers one year after the new technology was introduced: mutual respect among workers and supervisors (4); workers' voluntary decision to work overtime in order to complete repairs (8); workers' voluntary improvement of the physical work environment (6a; 8); decrease in interest in unions (8). Among supervisors, the changes deleted disciplinary responsibility (7), which led to supervisors' choosing to spend most of their work time in helping to organize the specialized work teams (6b) and to organize task descriptions.

Five years after the change, however, there was extreme specialization of team functions, greater skill and salary (3) for most specialized teams, and termination of inter-team job rotation, which resulted in limitations on advancement (9), conflict between younger and older workers for the best jobs (6b), a strongly-perceived and resented difference in status (4) between jobs and work groups, and reassertion of the old supervisory role of control (7) in deciding on the now-rare advancements--a development not accepted by workers (6b). Also, whereas members of the highly-skilled work groups assisted one another at work (6b) and participated together in after-work activities (10), members of the less-skilled groups failed to interact at work (6b) or to take any initiative on the job (1).

Scheflen, Kenneth C.; Lawler, Edward E., III; and Hackman, J. Richard. "Long-Term Impact of Employee Participation in the Development of Pay Incentive Plans." Journal of Applied Psychology 55 (1971): 182-186.

In a small building-maintenance contracting firm, part-time maintenance workers organized in five autonomous work groups ranging in number from 2 to 25 were subjects of a study using semi-structured interviews and company records. Workers were mostly members of minority ethnic groups and ranged in age from 16 to 70.

Worker participation in the development of pay incentive plans (3) was found to be associated with high attendance levels (8).

Schein, Edgar H., and Lippitt, Gordon L. "Supervisory Attitudes toward the Legitimacy of Influencing Subordinates." Journal of Applied Behavioral Science 2 (1966): 199-209.

In this study, data collection was based on responses to an influence questionnaire. Six samples, each consisting of 30 people, were obtained by mailing questionnaires to large groups in each of several occupational sets (managers, police chiefs, budget and financial directors, military personnel directors, and civilian and government personnel directors) and arbitrarily using the first 30 responses received from each set. An additional sample of 324 middle-level managers was obtained during training and management courses conducted both in and outside three large corporations.

The results of the study showed that hierarchical rank and tenure were not associated with one's score on the influence index (7). Also, there was no association between the visibility of the subordinate's role and the superior's influence index (7). Finally, the study revealed a positive association between the degree to which the supervisory role demanded extensive and close supervision because of a centralized and/or automatic organization, and the superior's influence index (7).

Schmuck, Richard A.; Runkel, Philip J.; and Langmeyer, Daniel. "Improving Organizational Problem Solving in a School Faculty." Journal of Applied Behavioral Science 5 (1969): 455-482.

A laboratory training program was undertaken to improve the flexible organizational problem-solving of a junior high school faculty by integrating group training in communication and problem-solving with normal school business. The intervention -- which was neither sensitivity training nor the T-group -- sought to increase effectiveness of groups as task-oriented entities rather than personal development. Training interventions occurred at three separate times, between August, 1967 and February, 1968 and included all staff (N = 54): administrators, faculty, the head cook, head custodian, and head secretary.

Three months after the first week of training, a sample of faculty members were interviewed and asked to write essays on the effects of training; results showed many teachers were applying techniques learned in training to improve group processes in their classrooms (6b). Teacher resentment toward a group of eight teachers called the "Teach Group" had, prior to training, caused resistance to innovations the Teach Group was trying to introduce. After training, distrust lessened and the Teach Group's type of collaboration was extended to twice as many teachers (6b).

At the end of the school year, following the second intervention, the turnover rate (1) of the experimental school was found to be much lower than that of other junior high schools in the district. Also, several faculty meetings were initiated during the year by faculty members other than the principal (7), counter to tradition. The principal's interpersonal relationships with staff were improved (6b).

Data taken from questionnaires administered at the experimental school early and late during the 1967-1968 school year were compared with data from six junior high schools in the New York City area and from near Seattle, Washington, none of which were engaged in organizational training similar to that of the experimental school. The faculty of the experimental school was found to have changed its perceptions of the principal much more than did any of the other school staffs, in directions that were positive and supportive (6b, principal's social supportiveness). Teachers at the experimental school reported their principal was easier to get along with, made better decisions, helped them more in their own problem-solving (6b) and treated them more as professionals (4).

"Improving Organizational Problem Solving in a School Faculty" (Continued)

The experimental school also showed major differences from other schools in its significant positive change in regard to staff meetings: greater openness and improved conduct of meetings (6b), more complete dealing with problems and more solutions (7), and greater commitment to the meetings and sense that meetings were worthwhile (8).

In addition, results of a questionnaire administered at the experimental school and four junior high schools from two cities near Seattle indicated that faculty at the experimental school were generally more open in their interpersonal communication and willing to talk about their feelings (6b) and were more willing to share new ideas and take risks (6b; 7).

Schneider, Benjamin; Hall, Douglas T.; and Nygren, Harold T. "Self Image and Job Characteristics as Correlates of Changing Organizational Identification." *Human Relations* 24 (1971): 397-416.

One hundred fifty-seven U. S. Forest Service professionals in the eastern region of the United States were subjects of a study using questionnaires (response rate: 76%). Job tenure ranged from one to five years (N = 47) through six to ten years (N = 57) to more than eleven years (N = 36).

It was found that as tenure increased, the amount and importance of organizational identification (8) also increased. The challenge and involvement with work (5: 8) experienced by the foresters was associated with amount of organizational identification (8) they experienced. Individual self image (4) was related to amount and importance of organizational identification (8).

Schuh, Allen J. "Application Blank Items and Intelligence as Predictors of Turnover." Personnel Psychology 20 (1967): 59-64.

In a study of 151 male salesmen, aged 21-45, mostly with education beyond high school, employed with a trade food products company, it was found that scores on the Wonderlic Personnel Test were inversely related to long job tenure (1) and that data from personal histories were not associated with tenure (1) at all.

Schwartz, H. A., and Long, H. S. "A Study of Remote Industrial Training Via Computer-Assisted Instruction." Journal of Applied Psychology 51 (1967): 11-16.

A questionnaire was used to study 40 field engineers employed in four major cities, who participated in a training program.

Engineers' questionnaire responses indicated that they perceived computer-assisted instruction (CAI) as having taught them better (5a) than the self-study method of training and would choose CAI for further training.

Scott, Richard W. "Reactions to Supervision in a Heteronomous Professional Organization." Administrative Science Quarterly 10 (1965): 65-81

Questionnaire data from case workers and interview data from their first-line supervisors were used to ascertain their attitudes toward their work life in a heteronomous public social work agency. (A heteronomous professional organization as defined for the study is one in which the administration maintains control over most professional activities.)

The study showed that the workers in the social agency believed that the kinds of services they could perform for clients -- their professional function (5b) -- was rather severely constrained by the administrative and legal framework within which they were required to operate. It was also determined that professionally-oriented workers (those having completed some graduate work in social welfare) experienced and reported more limitations placed on them by the system (5b) than non-professionally-oriented workers; also, workers supervised by professionally-oriented supervisors were less critical of the limitation of the system (5b) than were workers serving under less professionally-oriented supervisors.

Seashore, Stanley E., and Barnowe, J. Thad. "Behind the Averages: A Closer Look at America's Lower-Middle-Income Workers." Industrial Relations Research Association, Proceedings of the 24th Annual Winter Meeting, December 27-28, 1971, pp. 358-370.

A study of 1,095 male, middle-income blue-collar workers attempted to determine whether demographic characteristics of a certain segment of the work force were associated with a recognizable cluster of attitudes and beliefs, which, in turn, were associated with the "blue-collar blues" (undesirable characteristics including generalized dissatisfaction with life, alienation from one's society and social role, blunted aspirations, aggressive feelings toward other kinds of people, low sense of political efficacy, mild paranoiac reactions, and mild but debilitating health reactions). Data from a national probability sample interview survey were used to examine the possible associations. Eleven subsets in the total sample were compared.

The "blue-collar blues," defined as generalized dissatisfaction with life (1;10), alienation from one's society and social role (10c), blunted aspirations (9), aggressive feelings toward other kinds of people (10), low sense of political efficacy (10c), mild paranoiac reactions (2), and mild but debilitating health reactions (2), was not found to be most prevalent in that segment of the workforce that is male, middle income, and of blue-collar occupation. On the contrary, the highest "blues" score was found among low-income (3) blue-collar workers, both male and female; the lowest "blues" score existed among the high-income sets (3) of diverse sex and collar. The three key demographic variables, therefore -- each known separately to be significantly correlated with the "blues" -- display when combined only a modest association with the index and associations not patterned in the manner prescribed by the "blues" stereotype.

Following these results, the researchers attempted to locate some subsets as defined in more complex ways, that would more realistically reflect distinct "types" of workers in the work force. Seven such types of full-time employed adults were identified and their status on the blue-collar blues index compared. The "blues" proved to be distinctively associated with certain segments of the workforce and not with others, although the between-group differences were of marginal statistical significance. It was not the stereotypic Hardhat (male, blue-collar, high school education or less, under 50 years old, married and/or major support of children, sole or major wage owner of a household) who was found to have the "blues"; rather, it was the Future Hardhat (same as Hardhat, but under 30 years of age and without dependents) and the Matriarch (female, major wage earner for a household, one or more dependents). The researchers conclude that the blue-collar blues are endemic in the whole of the workforce and rest only slightly upon the demographic characteristics or combinations of them invoked by the stereotype of the middlemass worker.

"Behind the Averages: A Closer Look at America's Lower-Middle-Income Workers"
(Continued)

Study then focused on possible associations between various quality of work indicators and the blue-collar blues. These quality of work variables accounted for fully 30 percent of the variance in blue collar blues, the important "blues" predictors being those that impinge upon the worker's values concerning self-respect (4), chance to perform well in his work (5b), chance for personal achievement and growth in competence (5b;5a), and chance to contribute something personal and unique to his work (5b, self-actualization). These job characteristics -- pertinent to having a demanding job, a job that permits good performance (5b), supervisors and associates who encourage high performance (6b;5b), opportunity for variety, and the like -- are interpreted to represent the "intrinsic" satisfiers and motivators, as compared to the "extrinsic" variables. Those "extrinsic" variables that proved to be of some importance were number of classes of fringe benefits received (3) and risk of displacement by automation (3). Income (3) was much less important.

Further analysis to determine whether the lower-middle-income American worker is driven by the blue-collar blues toward political and social values (10) that are super-conservative, ethnocentric, aggressive, hostile, and exceptionally dominated by self-interest rather than general societal interests showed that the middle-income workers (3) deviate from other income groups (3) on certain political and social issues (10) but are generally influenced in the same ways as other income groups; the attitudes are not a consequence of generalized alienation of middle-income workers from the society (1;10c).

Seeman, Melvin. "On the Personal Consequences of Alienation in Work." American Sociological Review 32 (1967): 273-285.

Structured interviews were conducted with a random sample (N = 558) of the male work force in Malmo, Sweden, including both manual and non-manual workers, aged 20-79.

There was little evidence that alienation in work eventuates in intergroup hostility (10c), anomia (10), political withdrawal (10c), status seeking (10), and a sense of powerlessness. The influence of social factors crucial to mass society theory (e.g., membership in an occupational community or a work organization) was found to be minimal in its effect on either mean level of work alienation (1) or the degree of correlation between alienation and the generalized outcomes. Those high in work alienation (1), however, had significantly less interest in discussing their work with others (6b), especially when the workers were not in an occupational community or organizationally involved. There was some evidence that the extremely alienated workers generalize their work attitude to include anomia (10) and a retreat from mobility striving (9, status mindedness).

There were meaningful relationships between some of the supposed outcomes: for both manual and non-manual workers, high powerlessness correlated positively with low political knowledge (10c) and ethnic prejudice (10).

Segal, Bernard E. "Dissatisfaction and Desire for Change Among Chilean Hospital Workers." American Journal of Sociology 75 (1969): 375-388.

Personal interviews were conducted with 71 professionals (physicians, interns, and nurses) and 116 non-professionals (nursing assistants and ward maids) in a large general hospital in Santiago, Chile.

Compared to the non-professionals, the professionals were more modernistic (i.e., rational and secular, permissive of choice and experiment, inclined to glorify efficiency and change and to stress individual responsibility) and more likely to endorse broad and general programs of social change (10).

Seltzer, Carl C. "Occupation and Smoking in College Graduates." Journal of Applied Psychology 48 (1964): 1-6.

The association of occupation and smoking behavior was the subject of a study using 895 members of the Harvard class of 1946, who completed mailed questionnaires 13 years after their graduation. (The response rate was 81 percent.) Since the graduates averaged 35 years of age, their smoking histories covered a considerable period of time and their occupational status was generally firmly established. Current smokers at the time of the study had been smokers for somewhat more than 15 years, on the average; discontinued ex-smokers had an average history of more than 11 years. Nonsmokers were defined as those who had never smoked, or had attempted only an occasional smoke during their lifetimes. Smokers were grouped according to form of tobacco used and rate of cigarette smoking. Occupations, categorized by "primary focus of activity," were grouped as Service, Business Contact, Organization, Technology, Outdoor, Science, General Cultural, or Arts and Entertainment.

Smokers (10) were significantly differentiated from nonsmokers in the frequencies in which they fell into certain occupational classifications, being significantly more heavily represented in Business Contact (e.g., promoters, salesmen, retail and wholesale dealers, buyers) and in the field of Organization (major and minor executives; bankers) as a whole, as well as in the Organization subdivision of business executives of all types. Nonsmokers (10) were significantly more heavily represented in the General Cultural category, consisting of attorneys, college professors, clergymen, high school and elementary teachers, and "others" (journalists, museum curators, librarians, etc.); they were most strongly represented among occupations in the "other" subdivision of General Cultural occupations. There were no significant differences between smokers (10) and nonsmokers (10) in the Technology, Outdoor, Science (research scientists, physicians, surgeons), or Arts and Entertainment groupings, with the possible exception of surgeons in the Science grouping: among nonsmokers (10) there was more than twice the proportion of surgeons than among smokers.

There were consistent, graded sequences of occupational frequencies according to rate of cigarette smoking.

Shepard, Jon M. "Functional Specialization and Work Attitudes." Industrial Relations 8 (1969): 185-194.

To discern the effects of job attributes on worker attitudes in different technological environments, workers were selected by a quota method whereby only workers performing tasks corresponding to three man-machine relationships were chosen: high functional specialization (mechanized or mass production), moderate functional specialization (automated production), and low functional specialization (craft production). In each case, workers selected were part of larger work organizations containing workers with different relationships to technology. The craft (N = 117) and mechanized workers (N = 96) were drawn from an automobile assembly plant (assembly line workers and journeymen doing maintenance work, respectively): the automated workers (N = 92) were all oil refining control room monitors. Structured interviews were used, based on part of the Brayfield and Rothe index of job satisfaction.

A strong positive relationship was found between higher functional specialization and greater perceived powerlessness (7; 1, lack of freedom and control on the job): 93 percent of assemblers (mechanized mass production) but only 43 percent of monitors (automation) and 19 percent of craftsmen (craft) experienced powerlessness. Perceived autonomy and responsibility on the job (7) also was highest where functional specialization was lowest, and vice versa. Furthermore, perceived meaninglessness of the work (1; 4) was highest (73 percent) among those doing work with the greatest degree of functional specialization, although it was lowest among those holding moderately-specialized jobs (34 percent) and intermediate (42 percent) for those holding jobs with the least functional specialization.

These results and job satisfaction ratings indicate that automated technology, as compared to mechanical technology, apparently improves attitudes toward work among production workers.

Shott, Gerald L.; Albright, Lewis E.; and Glennon, J. R. "Predicting Turnover in an Automated Office Situation." Personnel Psychology 16 (1963): 213-220.

In an attempt to reduce the high rate of turnover among clerical employees in a highly automated office, existing personnel information was examined for items that might discriminate short-tenure employees (those who quit in less than one year) from long-tenure employees (those still working after one year). Employees who left for reasons of marriage, pregnancy, or leaving the city with family were excluded from the study. Sources of data were the employees' application blanks, test scores, and reference inquiries.

Results indicated that for both men and women, long-tenure employees (8) tended to have prior work experience, an average of at least ten months of service with their previous employers, and no unfavorable employer references; they also tended to have left their last jobs to seek advancement, and to have Wonderlic scores of 26 or less. Generally, they had not lived on the north side of Chicago. Long-tenured (8) men also tended to have served in the armed forces. Other characteristics significantly associated with long tenure (8) among women were that they lived in the city as opposed to the suburbs, were older at the time of application (24 years of age or more), and had Card Punch Aptitude Test scores of 120 or more.

Simpson, Richard L. "Vertical and Horizontal Communication in Formal Organizations." Administrative Science Quarterly 4 (1959): 188-196.

Interviews were conducted with supervisors in the spinning department of a synthetic textile mill. The department was structured in a four-level hierarchy, with the supervisors occupying the top three positions.

Results indicated that the work-related contacts of the supervisors at the upper two levels were mainly vertical (6b), whereas the work-related contacts of supervisors at the lower level were mainly horizontal (6b).

Slivnick, Paul; Kerr, Willard; and Kosinar, William. "A Study of Accidents in 147 Factories." Personnel Psychology 10 (1957): 43-51.

In a study of accidents in 147 factories in the automotive and machine shop industry, accident severity and frequency were correlated with each of 75 independent variables.

Accident frequency (2) was shown to be associated with seasonal layoffs, poor attitude of co-workers toward high producers, small plants, easy access to prostitutes en route to and from work, other plants in close proximity, frequent handling of heavy materials, blighted living conditions, and garnisheed wages.

Accident severity (2) was found to be associated with non-equalitarian eating among superiors and subordinates, national union strength in the plant, lack of any stated penalty for tardiness, lack of an employee profit sharing plan, extreme working temperatures, and "dirty, sweaty" work.

Slocum, John W., Jr.; Topichak, Paul M.; and Kuhn, David G. "A Cross-Cultural Study of Need Satisfaction and Need Importance for Operative Employees." Personnel Psychology 24 (1971): 435-445.

The "Porter Need Satisfaction Questionnaire" was used to measure perceptions of two groups of blue-collar industrial workers: 100 Mexicans working in a Mexican glass company and 83 Americans working in a glass company in the United States. Both companies were comparable in the type of industrial technology and mass production process used, as well as in organizational structure.

Results indicated that originating from and working in a Mexican cultural base is associated with a significantly higher perception of satisfaction of needs (3, security; 6b, social; 4, esteem; 7, autonomy; and 5, self-actualization) than is associated with originating from and working in an American cultural base.

Smith, Clagett G.; and Tannenbaum, Arnold S. "Organizational Control Structure." Human Relations 16 (1963): 299-316.

Data concerning approximately 200 geographically separate organizational units from a number of large organizations, which had been collected in several previous studies, were re-analyzed for the present investigation.

The study revealed that in the voluntary organizations the degree of perceived hierarchical control (7) as well as perceived total control (7) both had significant positive associations with member loyalty (8). In the same organizations, the perceived incongruence between ideal and actual hierarchical and total control (7) was significantly negatively associated with member loyalty (8). In the local unions, the degree of perceived actual total control (7) was significantly positively related to member loyalty (8). In the sales organizations there was no significant association between any measure of control (7) and a member's attraction to the organization, measured as his desire to remain with the organization rather than moving on to another (8; 1).

Smith, Clagett G., and Tannenbaum, Arnold. "Some Implications of Leadership and Control for Effectiveness in a Voluntary Association." Human Relations 18 (1965): 265-272.

Questionnaires were mailed to 25 randomly-chosen members from each of a sample of 112 chapters of the League of Women Voters, a voluntary organization. The study utilized a control graph to characterize the pattern of control in formal organizations. The horizontal axis of the graph represented the hierarchical levels of the organization; the vertical axis represented the amount of control exercised by each of the levels; i.e., how much influence each level has in determining the policies and actions of the organization. Two aspects of organizational control structure were determined from the control curves: first, the hierarchical distribution of control is represented by the shape or slope of the curve; second, the total amount of control exercised by all levels in the organization is represented by the general height of the curve.

The study revealed a slight association between the degree of member activity, coupled with the perceived coordinative competence of the league president, and a high degree of positive slope to the control graph (7). A second hypothesis, stating that coordinative competence by the league president would lead to a relatively high level of total control (7) under conditions of high member activity but not under conditions of low member activity, was not upheld by the research.

Spector, Aaron J.; Clark, Russell A.; and Glickman, Albert S. "Supervisory Characteristics and Attitudes of Subordinates." Personnel Psychology 13 (1970): 301-316.

Officers, chiefs, and men in the gunnery, operations, and engineering departments of four capital ships in the United States Navy's Atlantic fleet were study subjects. Seventy-three officers made 114 appraisals of chiefs working under their direction; 67 chiefs contributed a total of 263 appraisals of their fellow chiefs; the chiefs also gave their personal reactions to the navy; and 800 men working under the chiefs filled out an attitude questionnaire. Implications of the study were that a man will be more apt to respect the navy and consider making it a career (8) if he serves under a conscientious, hard-working, high-status chief.

Steele, Fred I.; Zand, Dale E.; and Zalkind, Sheldon S. "Managerial Behavior and Participation in a Laboratory Training Process." Personnel Psychology 23 (1970): 77-90.

A questionnaire and observation (longitudinal) were used in a study of managers at two levels below vice-president in a large organization.

An individual manager's pre-laboratory training expectations (e.g., satisfaction with advanced information, perceived clarity of management expectations, and felt pressure to attend) were associated with having a good laboratory experience, as measured by the Group Perception Questionnaire (GPQ). Having a good laboratory experience, in turn, was associated with the continued implementation of follow-up activity following the laboratory change efforts (5b; 6b).

Steeves, Allan D. "Dissatisfaction and the Farm-Nonfarm Work Context." Social Forces 48 (1969): 224-232.

A 1 percent probability sample of all Michigan farmers yielded 804 usable questionnaire responses, supplemented by structured interviews. Of the sample group, 43 percent were presently working off the farm half-time or more, 33 percent had worked off the farm full-time in the past, and 24 percent had never worked off the farm full-time.

Dissatisfaction with farming as an occupation (1) was found to be related to low education and low income, especially for the older age group. Dissatisfaction (1) was not found to be strongly related to present or past experience with off-farm work.

Stone, Thomas H., and Athelstan, Gary T. "The SVIB For Women and Demographic Variables in the Prediction of Occupational Tenure." Journal of Applied Psychology 53 (1969): 408-412.

A sample of 198 occupational therapists and 225 physical therapists, selected from a mailing list of professional organizations and from state certification records, responded to a career-pattern questionnaire and the Strong Vocational Interest Blank for Women.

Several demographic characteristics--number of children, age of children, own income, and spouse's income--were significantly associated with job tenure (8) for both occupational therapists and physical therapists. Marital status was significantly associated with tenure (8) for physical therapists only, and age was associated with tenure for occupational therapists only.

Student, Kurt R. "Supervisory Influence and Work-Group Performance." Journal of Applied Psychology 52 (1968): 188-194.

Hourly employees ($N = 486$) and first-line supervisors ($N = 39$) in 40 work groups were subjects of a study in a home appliance manufacturing firm. Company records as well as a questionnaire were utilized for the study.

It was found that the subordinate work group's perception of their supervisor as "expert" was associated with a low accident rate (2). Subordinate work group's perception of their supervisor as having either incremental, referent, and/or expert power was associated with workers in group having a higher rate of **excused absences (1).**

Susman, Gerald I. "The Concept of Status Congruence as a Basis to Predict Task Allocations in Autonomous Work Groups." Administrative Science Quarterly 15 (1970): 164-175.

In a small Southern California oil refinery using continuous process technology, 14 blue collar workers were subjects of a study using field observation, interviews, and questionnaires. The men worked in independent work groups (crews) comprising two formally-differentiated positions: stillmen (mean age, 49; average seniority, 12 years) and stillmen helpers (mean age, 31; average seniority, 4 years). Workers were rotated in shifts among 13 three-man crews with one stillman and two helpers per crew.

The independent work groups (crews) had autonomy (7) to allocate tasks within the group. For the higher job position (stillman), there was a positive correlation (status congruence) between competence (4), as judged by fellow workers, and allocation of skilled tasks (5b). For the lower job position, however, there was a negative correlation between position and allocation of skilled tasks (5b) on the basis of perceived competence (4).

In independent work groups, differentiated formal positions may reduce motivation (8) and performance (5b).

On-the-job socializing (6b), however, was increased as an effect of differentiated positions. This correlation is explained on the basis that occupants of lower positions in independent work groups obtain less intrinsic job satisfaction (5a, 5b) and therefore seek other sources of satisfaction (6b). Lower position also correlated with a lower level of identification with managerial objectives (8).

Formal position differentiation also reduced opportunities for learning (5a), keeping those in lower positions underskilled and thereby causing a loss in potential group resources.

Autonomy (7) within the refinery work groups came about as a consequence of the continuous-process technology: task coordination by workers was more efficient and economical than task coordination by higher echelons. Therefore, autonomy (7) in this case was the result of an economic decision by management. It is concluded that organizational identification (8) among workers may be affected not only by the design of work groups but also by worker awareness of underlying managerial motivations in creating them. The correlation is relevant to a distinction between independent work groups like those studied and democratic work groups; status congruence may be more inclusive in democratic work groups.

Susman, Gerald I. "The Impact of Automation on Work Group Autonomy and Task Specialization." Human Relations 23 (1970): 567-577.

In a small, highly-automated Southern California oil refinery, thirteen three-man work crews were sampled using interviews and field observation. Work crews included workers at two skill levels: stillman, the more highly-skilled position, and stillmen helpers, the less-skilled job. The refinery technology was continuous process.

Results indicated that in a highly automated industrial setting, work groups operating in an "uncertain" environment and not required to adhere to exact job descriptions tend to form in a conditionally autonomous way (7), with each member becoming competently multiskilled (5a; 4). Those in the high-skilled position (stillman) tend to identify with managerial objectives (8); whereas those in the low-skilled position (stillman helper) tend to identify less with managerial objectives (8).

Susman, Gerald I. "Process Design, Automation, and Worker Alienation." Industrial Relations II (1972): 34-45.

Twenty-six plants in seven continuous process industries were subjects of a study of the relationship between automation and worker alienation, based on analyses of the "alienation propensity" of a wide variety of jobs within a number of continuous process industries.

A questionnaire sent to industrial engineering departments of the 26 plants yielded a sample of 106 continuous process jobs, which were then classified by type of control (automatic or manual), type of process continuity (batch or nonbatch), and by industry (chemicals, petroleum refining, electrical power, beverages, gypsum, glass, and cement). Researchers then employed field observation to rate the jobs according to the degree to which attributes were present that are associated with power, meaning, and norms, on the basis that the three most frequently cited causes of work alienation are meaninglessness, normlessness, and powerlessness.

Automatic control in batch production jobs was found to negatively affect worker contributions to work process (5b)--an aspect of meaning--and therefore to have "alienation propensity" (1). Automatic control, however, did not affect nonbatch jobs. In manually-controlled jobs, nonbatch process continuity had a negative effect on worker contributions. Therefore, automation and nonbatch process continuity reduce meaning (1) by eliminating direct worker intervention in the workflow process (5b). Sensory relation to the product, however--another aspect of meaning (1)--was not significantly affected by automatic controls in either the batch or nonbatch process categories.

There was a significant difference between automatic and manual jobs in batch and nonbatch production on the index of norms, indicating that the introduction of automation in continuous process industries contributes to development of a status gradient consisting of differences in pay (3), training, and length of time necessary to master the job.

In nonbatch production jobs, automation was found to reduce discretion, a dimension of power (7; 1, powerlessness as "alienation propensity"). Nonbatch process continuity, however, increased discretion (7; 1) in manual jobs.

"Process Design, Automation, and Worker Alienation."
(Continued)

The findings suggest that, except for status gradients, automation in continuous process industries does not create the job conditions thought to reduce alienation (1). On the contrary, automation undermines the positive aspects of continuous process jobs by reducing workers' contributions to the transformation process (5b) and by limiting job discretion (7) and variety. This interpretation was supported by a chi-square analysis comparing the 106 monitoring jobs from continuous process technologies to 21 similar jobs from discrete process technologies in the same industries: job conditions favoring reduced alienation (1) were shown to improve when a discrete technology is transformed into a process technology.

In comparison of the most and least automated plants in the sample, a high degree of automation was found to decrease worker contributions (5b), discretion (7), and variety, thereby creating increased "alienation propensity" (1).

Sutton, Harold, and Porter, Lyman W. "A Study of the Grapevine in a Governmental Organization." Personnel Psychology 21 (1968): 223-230.

A questionnaire was administered to the entire work force (N = 79) of a regional tax office, including the regional director, auditors, task representatives, and clerical workers.

Results indicated that individuals higher in the organizational hierarchy were more informed concerning grapevine information (6b; 7); within this organization the flow of information took place much more within rather than between functional groupings (6b);also, only 10 percent of the work force functioned as "liaisons" (6b; 7, received information and passed it on), whereas 33 percent were "isolates" (6b; 7, never received the information) and 57 percent functioned as "dead-enders" (6b; 7, received information but did not pass it on).

Sweetser, Dorrian Apple. "The Structure of Sibling Relationships." American Journal of Sociology 76 (1970): 47-59

Interviews and a communication questionnaire were used in a study of 200 married couples in Finland, both farmers and nonfarmers.

Among children of nonfarmers, 18 years and older, communication is greatest between sisters, intermediate between brother and sister, and lowest between brothers (11). By contrast, among children of farmers, 18 years and older, communication between brothers is high, whereas the communication between brother and sister as well as between sister and sister resembles that of children of nonfarmers (11).

Tannenbaum, Arnold S., and Bachman, Jerald G. "Attitude Uniformity and Role in a Voluntary Organization." Human Relations 19 (1966): 309-322.

Questionnaires were mailed to approximately 25 members from each of 104 local leagues of the League of Women Voters, from which a final response rate of 77 percent was obtained after an elaborate set of follow-up procedures, including letters and phone calls from members of the research staff. Within each of the 104 leagues, respondents were classified into three categories. The first, officers, were selected on the basis of their responses to a questionnaire indicating membership on the board of directors or being the local president. The remaining members were classified either Actives or Inactives, according to their responses to certain questionnaire items.

The study supported the hypothesis that Active members are more likely than Inactive members to be high in attraction to the group and in level of involvement (8), to exercise influence (7), to exert pressures and have pressures exerted over tham (7), and to communicate and be communicated to (6b).

All of the differences were clearly significant beyond the .01 level.

Tannenbaum, Arnold S., and Smith, Clagett G. "Effects of Member Influence in an Organization: Phenomenology versus Organization Structure." Journal of Abnormal and Social Psychology 69 (1964): 401-410.

The effects of membership influence in an organization on members' loyalty and membership activity were explored by means of secondary analysis of data from a previous survey of 104 leagues of the League of Women Voters of the United States.

Significant interleague correlations were found between members' average perceptions of membership influence (7) in their respective leagues and the average loyalty (8) and activity (8) of members in those leagues who were matched on perception of influence. The correlations cannot easily be explained by the phenomenological hypothesis -- which explains the effects in terms of the influence that members perceive to exist rather than in terms of the influence that actually exists -- since the members who differed in loyalty and activity reported identical perceptions of membership influence.

Taylor, James C. "Some Effects of Technology in Organizational Change." Human Relations 24 (1971): 105-123.

In a large petroleum refinery, more than 1,000 members of 140 non-supervisory work groups were subjects of a longitudinal (12-month) study of the effects of sophisticated technology (automation) on job-related work group behavior. Sophistication of technology was measured by a questionnaire as well as judgments of in-plant personnel; questionnaires on leadership, work group activities, and satisfaction were completed at three separate times during the study period.

Comparisons of high-technology with low-technology groups indicated that advanced technology, per se, is associated with more autonomous and participative group process (7; also 6b, peer interaction facilitation and sense of team membership in work group activities).

Results of a planned change program (introduced after the first of three surveys conducted during the study) showed that sophisticated technology facilitates planned social change toward increasing participative group process (7): the high technology groups increased their level of evaluation of supervisory and peer leadership (7; 6b), whereas low-technology groups did not.

Furthermore, when change toward participative group process is facilitated by technology, the change will be more permanent than when it is not, apparently because of changes in group behavior that tend to be maintained through changes toward more consonant attitudes.

Taylor, P. J. "Shift and Day Work: A Comparison of Sickness Absence, Lateness, and Other Absence Behaviour at an Oil Refinery from 1962 to 1965." British Journal of Industrial Medicine 24 (1967): 93-102.

Sickness absence of 717 male day workers and 666 male continuous three-cycle shift workers was studied over a four-year period in an oil refinery in England. Subjects were engaged in light to heavy manual work (skilled, semi-skilled, and unskilled) in production, maintenance, and service departments. Age range was from 19 or less to 59, with more young day workers than shift workers. Field observation was carried out and company records of worker absences examined. Inception rate (spells) of illness were used to assess differences in sickness absences; percentage time lost was calculated as number of working hours lost, expressed as a percentage of total potential working hours.

Continuous three-cycle shift workers (working mostly in production departments, doing light manual work) had consistently and significantly lower rates of sickness absence (2) than day workers (working mostly in maintenance, doing medium or heavy manual work) in similar occupations.

Age-related lateness and absenteeism (1) were also lower for shift workers and higher for day workers. The difference was greatest among younger men, with the highest lateness rates among young (19-39) day workers.

Analysis of possible explanations suggest that work patterns and group relationships are the real causes of the difference in absence behavior: for shift workers, smaller work group size (6b) and greater individual "indispensability" (7); for day workers, larger work groups (6b), less "indispensability" (7), little personal involvement with the work (1), frequent extension of hours by overtime that workers are expected to do (6a), and pressure to maintain the same standard of living (10a) as shift workers despite lower wages (3). These factors are coupled with shift workers' expressed preference for shift work hours (shift workers were essentially self-selected) and their higher degree of job satisfaction and identification (8), related to their work patterns and group relationships, including the more "self-disciplined" nature of their jobs (7).

Taylor, P. J. "Personal Factors Associated with Sickness Absence: A Study of 194 Men with Contrasting Sickness Absence Experience in a Refinery Population." British Journal of Industrial Medicine 25 (1968): 106-118.

In an oil refinery in England, a sample of 194 men with different patterns of sickness absence behavior were identified from the refinery population by simple epidemiological techniques in four groups: the frequently sick (men with five or more sickness spells in 1964, the year of reference); a matched control group; the long sick (men who had 60 or more days of sickness absence in 1964); and men who were never sick (had not had one day of sickness absence for at least eight years). Analysis of company records both before and since 1964 showed that the four groups maintained consistent patterns of sickness absence, although pre-employment medical examination records showed no statistical difference in incidence of trivial or significant medical conditions between the groups. Physical examinations of all the men, conducted during the study, also supported the conclusion that the men's attitudes toward themselves, their work, and their own health are of major importance in determining sickness absence:

Both types of sickness absence (2) were significantly associated with a past history of neurotic illness, peptic ulceration, and loss of work time due to back pain. Men with long periods of sickness (2), however, had the highest present susceptibility to bronchitis and asthma, and physical examination revealed a higher incidence of reduced lung function. The long sick were generally representative of the refinery population in terms of age, shift versus day work, and type of work assignment.

By contrast, frequent sickness absence (2) was associated with present susceptibility to a wide range of illnesses and with younger age (mean, 32.8), day work as opposed to shift work, maintenance work as opposed to production or service, absenteeism (1), lateness in "clocking in," dislike of the job (1), active desire for more responsibility (7), and wanting a change of foreman (9, frustrated ambition).

Men who were never sick (2) were in many respects the polar opposites of the frequently sick: they tended to be older (mean, 48), on shift work, and in production departments. They had the lowest lateness and absenteeism rates of all groups and stated almost unanimously that they enjoyed their jobs (8) and did not desire more responsibility (7). Despite their greater age and higher pay, many of the never sick bicycled to work. Although they denied illness, physical examination revealed that more than one-quarter of the never sick had some organic disease, in proportions similar to the frequently sick and control groups.

Telly, Charles S.; French, Wendell L.; and Scott, William G. "The Relationship of Inequity to Turnover Among Hourly Workers." Administrative Science Quarterly 16 (1971): 164-172.

Interviews with hourly shop workers in the main manufacturing branch of an aerospace company were used to develop a questionnaire that was administered to a stratified random sample of 900 hourly workers in 10 shops within the branch, 6 of which had low turnover and 4 of which had high turnover of hourly workers.

Comparisons of the high-turnover and low-turnover shops indicated that perceptions of inequity were related to turnover (1).

Kinds of treatment that brought about perceptions of inequity and were associated with high turnover were supervisor's inequitable treatment of employees, including lack of understanding, unapproachability on complaints, unresponsiveness to employee ideas (7), and inflexibility about rules (7); leadmen's lack of recognition of workers (4) and lack of availability, consideration, and support; poor working conditions (6a) including drab, unattractive work and eating areas, unsatisfactory tools, odors, noise, unsafe work areas (2), closed-in feeling in shop and difficulty getting parts (6a); intrinsic aspects of the job relative to workers' lack of pride (4) in accomplishment and workmanship (5b) and transfer without notice or difficulty in transferring on request (7); and social aspects of the job (6b) including lack of pride in the shop and lack of team spirit.

Trahair, Richard C. S. "The Workers' Judgment of Pay and Additional Benefits: An Empirical Study." Human Relations 23 (1970): 201-223.

Tradesmen and mine workers (N = 110) were interviewed in a coal mine in Broken Hill, New South Wales, in which coal was extracted in a mass production process.

The real value of pay (3), which was determined by the home and family situation of the worker, was a determinant of status of position (4). The contract system of pay helped distinguish the status of positions (4), in that workers on the contract system received more pay than those on straight wages. Contract work as an incentive scheme also gave men more control over their salary and physical effort (7).

Another pay system, the "lead bonus," resulted in a higher standard of living (11) for those who used the extra money for home improvement.

Company-developed recreational facilities provided an improved opportunity for staff and non-staff employees to socialize together (8) and were also utilized by the community (10c).

Trist, E. L., and Bamforth, K. W. "Some Social and Psychological Consequences of the Longwall Method of Coal Getting." Human Relations 4 (1951): 3-38.

Continuous contact was maintained over a two-year period with 20 coal mine workers representing the various coal-face occupations in a nationalized British mine.

The shift to an engineering mass-production technology created great differentiation of tasks (functional division), which, coupled with an unpredictable environment, resulted in more danger (2), harder work for less pay (3), and the potential for overtime work (6a; 11). The differentiation of tasks, in combination with rigid sequencing of task structure, functional interdependence, and complete role and shift segregation, led to great stress in the social system (6b).

Introduction of a deputy with all-encompassing responsibility for a work cycle caused stress (2) and alienation (1; 7) for both workers and deputy because the structure of mine work made it impossible for any single individual to successfully carry out the deputy's role.

Under mass production conditions the "filler" job became a specific task/role characterized by complete, isolated dependence and task unpredictability, resulting in anxiety and irritability (2), informal organization with neighboring fillers (6b), reactive individualism, and self-compensatory absenteeism (1). Fillers' anxiety carried over to and disrupted home life (11).

The author concludes that the social shortcomings of the "longwall" method were so great that any change would result in improvement.

Turner, Arthur N. "Foreman, Job, and Company." Human Relations 10 (1957): 99-112.

An intensive interview study was conducted with 202 male automobile assembly-line workers whose seniority ranged from 12 to 15 years. The study examined reasons for these workers' attitudes toward job, foreman, and company; especially the relationships between attitudes.

In the assembly plant, 72 percent of the men whose jobs were paced mechanically by the assembly line (7) expressed a desire to change their jobs to ones off the line (1). On the other hand, only 8 percent of the men who worked off the line wanted to change their jobs. The mechanical pacing and repetitiveness of the assembly-line jobs also gave the workers the feeling that they were not capable of performing their jobs well (4) and doing quality work. Overall, the majority of the workers felt that their jobs were not interesting. Also, most of the men working in the company felt that the company treated them very impersonally (6b) and did not do much for the workers.

Workers who had the most negative attitudes toward their foremen were the most likely to say that they would leave the company if they had the opportunity (1). Those workers who felt that the nature of their jobs hindered them in doing quality work (7) expressed the greatest desire to leave the company if the opportunity arose (1) and were the ones who most strongly felt that the company did not do anything for the workers. Finally, a majority of those workers whose jobs were not interesting to them said they sould leave the company (1) and that the company did not do much for the worker.

Turner, Arthur N., and Miclette, Amelia L. "Sources of Satisfaction in Repetitive Work." Occupational Psychology 36 (1962): 215-231.

Over a two-year period, data were collected through interviews with operators, field observation, and informal conversation with supervisory and staff personnel in a large assembly department of a medium-sized firm that manufactured high-quality electronic products. Some 400 women operators worked in the department in teams of three to six, assembling very small, delicate parts, often under a magnifying glass. The assembled product was inspected by the team under a microscope; quality standards were strict, and the typical job cycle for each member of a team was one minute or less. Samples of each team's output were subjected to tests by a quality control department, and lots that failed the tests were returned to the teams for 100 percent inspection and repair.

Although the work was repetitious, the intricacy and fineness of the product parts and their assembly, the skill required to meet quality standards, and the operators' belief that the product's end-use was important and crucial to national defense resulted in interest in the job and product (8, job involvement), pride in attaining sufficient skill to do a difficult job that initially seemed nearly impossible (4), a sense that the work was for an important end-purpose (4; 8), and pride in producing a quality product (4; 8). Management's emphasis on high quality also contributed to the operators' impression of the product as important and interesting (8); anything that indicated management did not share this image of the product -- for example, increased pressure for quantity production -- caused frustration (1) among operators. An incentive plan (3) based on high production standards caused operators to feel they were being pressured to attain a quantity level that was impossible without sacrificing quality, resulting in a sense of conflict between incompatible goals (1), which was worsened by progressively tighter quality standards. The conflict (1) was especially acute for the team inspector, who had the double responsibility of maintaining team output and seeing that the team passed quality inspection. The incentive plan (3), however, was important to operators as a proof of competence in their work (4; 5b); when the work was going smoothly, operators experienced a sense of pride and challenge (4) in keeping up with the team's incentive pace while maintaining high quality standards.

Turner, R. Jay, and Wagenfeld, Morton O. "Occupational Mobility and Schizophrenia: An Assessment of the Social Causation and Social Selection Hypotheses." American Sociological Review 32 (1967): 104-113.

Interviews and data from the county psychiatric register were used in an ongoing study of 214 schizophrenic males drawn from a larger random sample of white male schizophrenics aged 20 to 50 in Monroe County, New York. The sample included individuals at seven occupational prestige levels, ranging from the major professions through managerial and clerical jobs to unskilled manual work.

A disproportionately large number of schizophrenics (2) were found in the lowest of seven occupational prestige categories (unskilled manual work) and were also found to have fathers overrepresented in the lowest occupational level, although to a lesser degree than the subjects themselves. Nearly 80 percent of the schizophrenic sample at the lowest occupational level was downwardly mobile relative to fathers. Of the total schizophrenic sample (at various occupational levels), 31.4 percent were downwardly mobile relative to their fathers. Within their own careers, however, the schizophrenics were surprisingly stable in terms of type of jobs held; only 6.8 percent showed downward movement in their own work histories.

Udry, J. Richard; Bauman, Karl E.; and Chase, Charles. "Skin Color, Status and Mate Selection." American Journal of Sociology 76 (1971) 722-734.

Three hundred fifty Negro married men, all married for less than five years, were interviewed in the District of Columbia.

Results indicated that recently-married, dark-skinned Negro men tended to have greater job mobility (9, desire for and attainment of higher occupational position) and higher family income (3).

U. S. News and World Report. "The Drive to Make Dull Jobs Interesting." U. S. News and World Report, July 17, 1972, pp. 50-54.

Results of job enrichment are reported for several enterprises:

At the Corning Glass Works in Medfield, Massachusetts (instrument manufacturing), the assembly-line technique was abandoned in 1965-1966, and each of the six women workers were given enriched jobs assembling entire electrical hot-plates, including total responsibility for testing (5), freedom to schedule their work as a group (7) to meet weekly objectives, encouragement to suggest and devise improvements and techniques (5a; 5b), and accountability for quality of final product (7) by initialing finished units. Within six months, these changes resulted in a drop in absenteeism (8; 1) from 8 percent to 1 percent and a drop from 23 percent to 1 percent in product rejects. Productivity increased, although there was some turnover (1) of personnel judged by management to be incompatible.

Donnelly Mirrors, Inc., of Holland, Michigan, an auto mirror manufacturing firm, instituted a long-term, experimental job enrichment-incentive plan for all (N = 460) employees, in which workers determine their own annual salary increases (7; 3) and must find ways to fund them (7; 5) through higher production, reduction of costs, elimination of needless jobs, and the like. Bonuses (3) are also paid to workers on the basis of productivity. Organizational structure was decentralized so that all employees work on task-oriented teams under a foreman who is one of a team of foremen; work teams decide assembly line pace and breaks (7; 5b) and quality. Results of the innovations have been increases in wages (3), costs, and profits, despite lowered prices of company products, and increased pressure on foremen from workers (7; 8).

Monsanto Textiles Co. of Pensacola, Florida, instituted a job-enrichment program in 1971 for 6,000 hourly production workers, working four-day classroom sessions to involve workers in problem-solving, as well as allowing employees to set production goals (7) and rotate jobs, and reimbursement of education costs for those who earn a college degree while employed (5a). The changes caused employees to use their skills and knowledge for solving production problems and breakdowns (5b). Management judged the program more than paid for itself in higher productivity brought about by lowered repair costs and fewer idle machines.

At two new General Electric manufacturing plants, a plan for worker recognition (4) and participation (7) was instituted, in which incoming employees participate in an orientation course,

"The Drive to Make Dull Jobs Interesting"
(Continued)

work in small (25 persons) work crews headed by supervisors instructed to give the employee a sense of his role in the plant as a whole, and assembly workers have monthly meetings with foremen to discuss problems, experiences, and suggestions; also, women have the opportunity to hold the same jobs as men (9) at the same pay (3). As a result of the program, employees voted not to have unions represent them (8).

The Gaines pet food plant in Topeka, Kansas divided its work force into three specialized teams--processing, shipping, and office work--in which members rotate jobs (7) in order to fairly share "soft" and "hard" chores. The plant was redesigned for "openness" (6a) as part of the program. First-year results include: a major decrease in the absentee rate (1); most of team members get to work before their shift starts (8); theft and property misuse have dropped to nearly zero (8); product quality is uniformly high (5b); production costs are down 10 percent; and productivity is up 10 percent.

Van Der Merwe, R., and Miller, Sylvia. "The Measurement of Labour Turnover." Human Relations 24 (1971): 233-253.

A census study of 9,000 male workers holding various positions in South African shoe factories showed that as length of service in an organization increases there is a general decline in the turnover rate (1).

Vorwaller, Danel J. "Social Mobility and Membership in Voluntary Associations." American Journal of Sociology 75 (1970): 481-495.

Sample surveys of 417 men, in occupations ranging from professionals through laborers, and 844 housewives, conducted in Cambridge, Massachusetts, Belmont, Massachusetts, and Detroit, Michigan, indicated that an individual's social mobility (occupational position in comparison with father's occupational position) is not associated with membership in voluntary organizations (10a). Social class status, however (from high white collar to lower manual work), is associated with membership in voluntary organizations (10a).

Vroom, Victor H., and Mann, Floyd C. "Leader Authoritarianism and Employee Attitudes." *Personnel Psychology* 13 (1960): 125-140.

This study was carried out in a single plant of a large delivery company. The plant was composed of 28 geographically-separated operating stations, each employing about 50 persons. The relationship between the authoritarianism of supervisors (as measured by the F-scale) and the attitudes of their subordinates was studied in two different operations within the same industrial organization. Significantly different results were obtained in these two situations. Employees in small work groups characterized by a great deal of interaction among workers (6b) and between workers and their supervisor(6b) and by a high degree of interdependence had more positive attitudes toward equalitarian leaders (6b). On the other hand, employees in large work groups, in which opportunities for interaction among workers (6b) and between workers and their supervisors (6b) were greatly restricted, and in which individual employees were highly independent (7), were found to have more positive attitudes toward authoritarian leadership (6b).

Wager, Wesley L. "Leadership Style, Hierarchical Influence, and Supervisory Role Obligations." Administrative Science Quarterly 9 (1965): 391-420.

Questionnaire data was obtained from 1,063 nonsupervisory or lower-level white collar employees in a major industrial corporation. The employees were engaged in supporting staff work activities associated with financial support of the organization, including treasury, accounting, and data processing.

The study concludes that a supportive style of leadership (6b) is perceived by the subordinates as assisting the supervisor in fulfilling his role obligations: namely, social integration of employees into company and work group (8; 6b); career facilitation, including development of autonomy (9; 7); and retention of employees (1). Also, but to a lesser extent, belief on behalf of the subordinates that their supervisor can exert influence upward in the organization is perceived by the subordinates as assisting the supervisor in fulfilling his role obligations (8; 6b; 9; 7; 1). The importance of the leadership style variable was indicated by the fact that even when supervisors with low influence manifested the supportive style of leadership, that leadership style still contributed positively to the fulfillment of nearly all the areas of role obligations (8; 6b; 9; 7; 1). Such was not the case for supervisors with high influence who manifested low supportive style. The greater the influence that the supervisor is believed to have over his own boss, however, the greater the effect of the supervisor's style of leadership (7) on the perceived fulfillment of his role obligations (8; 6b; 7; 9; 1).

Walker, J. "Frequent Alternation of Shifts on Continuous Work." Occupational Psychology 40 (1966): 215-225.

Effects of a change from a seven-shift cycle to more frequent alternations were investigated in a chemical works and a steel works. In the chemical works, a 3 x 2 x 2 system was introduced at the request of the men and after two-thirds of them voted for the change. In the steel works, there had been a change to a 2 x 2 x 2 system several years prior to the investigation, at the request of the men; a concomitant decrease in average weekly work hours and and increase in earnings predisposed toward a favorable attitude toward the new system. Interviews were conducted with a random sample of 50 workers from two departments of the chemical works three years after the change. In the steel works, 60 randomly-selected men were interviewed, 20 from each of three mills that had changed to the 2 x 2 x 2 system approximately three years, two and one-half years, and six months previously. In the chemical works, median age of sample was 53 1/2 years; median tenure, 23 1/2 years, and median time on shifts, 22 years. In the steel works, median age was 37 1/2; median tenure, 12 years; median time on shifts, 14 years.

More than half the men in both factories reported less fatigue (2) on the new frequent-alternation shift systems. Both systems were associated with more time for rest and the workers' feeling fitter and fresher (2). Workers also reported that a major advantage to both systems was the opportunity to get out every week (10, leisure) and enjoy more frequent, if shorter, leisure periods at home (11). Most married men reported that the new schedules eliminated some of the undesirable features of the previous longer shifts of six or seven consecutive nights, especially the afternoon and night shifts when wives might be alone in the house (11). Other, possibly negative effects of the new systems--an added burden of household work and meal preparation--could not be accurately determined because wives were not interviewed.

There was little difference in effects or the workers' responses to the 3 x 2 x 2 or the 2 x 2 x 2 systems.

Walter, Benjamin. "Internal Control Relations in Administrative Hierarchies." Administrative Science Quarterly 11 (1966): 179-206.

Observational techniques were used to trace and measure the transmission of influence in two municipal administrative hierarchies. The research sites were "Alpha" and "Beta," pseudonyms for two neighboring southern cities, both having populations of approximately 100,000, city managers, and nonpartisan boards of aldermen. A small number of top administrators were observed in Alpha one summer and in Beta the summer following. In each city, the observer had the city manager's permission to read all correspondence received and dispatched, to attend all conferences, and to listen to all calls on an extension phone.

The study showed that in the formulation and execution of novel decisions (7), the subordinates were relatively more influential (7) than their superiors. Contrary to expectations, in programmed decision-making, the organizational superiors were not more influential (7) than their subordinates.

Walton, Richard E. "How to Counter Alienation in the Plant."
Harvard Business Review (November-December, 1972): 70-81.

This article analyzes employee alienation and its causes and argues that comprehensive redesign of the work place -- total restructuring of the way work is done -- is required to meet the changing expectations of employees and increase prductivity. A "systemic," comprehensive organizational redesign effort in a large pet-food manufacturing plant is reported as an example of the kind of change that is necessary to cope with alienation.

In 1968, the pet-food manufacturer was planning an additional plant at a new location. Its existing manufacturing plant was experiencing many symptoms of alienation, including employee indifference and inattention that, because of the continuous-process technology, led to plant shutdowns, product waste, and expensive recycling; also, employees resisted changes toward fuller manpower utilization, and acts of violence and sabotage occurred. Management, therefore, decided to design the new plant to accommodate changes in employee expectations and use behavioral science knowledge and consultants.

The innovative organizational design incorporated autonomous work groups, which have collective responsibility for large segments of the production process, including internal discipline, temporary task redistribution, and selection of new team members (7); integrated support functions, with avoidance of staff units and job specialties; challenging job assignments (job enrichment) in which every set of tasks is designed to include functions requiring higher-order human abilities (5b) and responsibilities, the basic technology is designed to eliminate dull or routine jobs, and employees are compensated for any necessary nonchallenging tasks by other, challenging ones; a reward system (3) that pays team members for learning more aspects of the total manufacturing system (5a) rather than basing pay increases on progress up a job hierarchy having differentiated jobs and job classifications; "facilitative leadership" in which team leaders are responsible for team development and group decision-making (7) rather than planning, directing, and controlling the work of subordinates; providing "managerial" decision information to operators (7) so they can make production decisions rather than depending on supervisors (7); self-government for the plant community (7); minimization of differential status symbols that characterize traditional work organizations -- plant architecture and design of parking lots, cafeteria, etc. (6a); and management commitment to continual reassessment of both plant productivity and its relevance to employee concerns. Successful effects of this design included greater employee work involvement (8) on the part of operators, team leaders, and managers; greater perceived employee influence (7); improved, more "open" relationships between operators and superiors (6b); reduced distrust and cynicism (1); and unusually high participation in civic affairs (10c) by team leaders and other plant managers, indicating that participatory democracy in the plant (7) will spread to other

"How to Counter Alienation in the Plant"
(Continued)

institutional settings (10c).

In addition, the plant's safety record (2) was one of the best in the company, turnover (1) was far below average, the new plant's fixed overhead rate was 33 percent lower than the old plant's after 18 months, there were 92 percent fewer quality rejects (8), absenteeism (1) was 9 percent below the industry norm and the team concept resulted in lower necessary manpower than had been expected. These factors resulted in an annual savings to the company of $600,000. Conditions that facilitated the success of the new plant (1;8;7;6b) were the particular technology and manufacturing processes of the business; technical and economic feasibility of eliminating some of the routinized, boring, or physically disagreeable tasks; the fact that the system was introduced in a new plant and the initial work force hired at one time; the physical isolation of the new plant from other parts of the company, facilitating development of unique organizational patterns; small size of the work force (approximately 70 employees, organized into six work teams); absence of a labor union at the outset, allowing greater freedom to experiment; technology that required and allowed communication within and between work teams (6b); and the socially positive image of the product and the company, which allowed employees to form a positive attitude toward both (8). Despite the overall success of the innovative human organization design, there were some implementation problems. Expectations of a small minority of employees did not coincide with demands placed on them by the new plant community; these employees did not get involved in the spirit of plant organization (8), participate in spontaneous mutual-help patterns (6b), or appear ready to accept broader responsibilities (7). Some team leaders had difficulty avoiding behavior characteristic of traditional authority figures (7). In the self-managing work teams (7), there was occasionally excessive peer-group pressure toward conformity with group norms (6b). Giving team members assignments usually limited to supervisors, managers, or professionals (7) also generated mixed feelings among a few other members of the organization.

Innovative efforts of other United States corporations -- Procter & Gamble and TRW Systems -- and foreign based companies including Shell Refining Company, Ltd. (England), Northern Electric Company, Ltd. (Canada), Alcan Aluminum (smelting plants in Quebec, Canada), Norsk-Hydro (a Norwegian manufacturer of fertilizers and chemicals), the Saab-Scandia automotive plants in Södertälje, Sweden, and the Volvo automotive firm (Sweden) are also mentioned in the article, and the Procter & Gamble, Saab, and Volvo efforts are summarized.

Warren, Donald I. "Social Relations of Peers in a Formal Organization Setting." Administrative Science Quarterly 11 (1966): 440-478.

This study reported on an analysis of public school teaching staffs as variations of primary groups. Using questionnaire data, schools were classified according to indices of social relations among teachers. Several dimensions of the primary group were treated as attributes of school staffs in defining crucial tasks of teaching and relating these tasks to peer influence. With both reported behavior and attitudes as dependent variables, hypotheses concerning the differential impact of three types of peer relations were tested.

Where peer relations were characterized by job-specific social interaction (i.e., based mainly on job-defined contact), group norms tended to emerge more on the basis of behavioral conformity than attitudinal conformity (6b). Where peer relations were characterized by consensual social interaction (i.e., where social relations were based largely on a shared sense of unity and solidarity), group norms tended to emerge more on the basis of attitudinal conformity than of behavioral conformity (6b). Peer relations based on job-specific interactions tended to show group norms (6b) emerging more frequently in a uniform than non-uniform task area. Peer relations based on consensual interaction tended to show group norms (6b) emerging more in non-uniform than in uniform task areas.

Weiss, Edward C. "Relation of Personnel Statistics to Organizational Structure." Personnel Psychology 10 (1957): 27-42.

The responses of 60 firms to a 22-item checklist provided the data for the development of a "centralized-decentralized" typology. In addition, 34 of the firms provided additional personnel statistics.

One-tailed "t" tests failed to indicate any significant differences between companies classified as "centralized" and those classified as "decentralized" in regard to the dependent variables of labor turnover (1), absenteeism (1), grievances (1), and accidents (2).

Wences, Rosalio. "Electoral Participation and the Occupational Composition of Cabinets and Parliaments." American Journal of Sociology 75 (1969): 181-192.

Secondary analysis of government documents and records pertaining to members of 19 cabinets and 19 parliaments in 19 countries indicated that the higher the percentage of cabinet members and parliamentarians recruited from business and legal occupations, as opposed to other professions and/or labor and party bureaucracies, the lower the public involvement in electoral politics, as measured by percentage voter turnout (10c).

Whitehill, Arthur M., Jr. "Cultural Values and Employee Attitudes: United States and Japan." Journal of Applied Psychology 48 (1964): 69-72.

The influence of cultural orientation upon worker attitudes toward reciprocal obligations in employee-employer relations was investigated in a cross-cultural survey of 2,000 production workers in Japan and the United States. The sample was equally divided between the two countries and was made up of workers employed in four roughly comparable firms in each country.

Japanese workers were found to have much more exacting expectations of management in terms of providing employment continuity (3): 55 percent of Japanese workers thought that if a worker, although willing, proved unqualified on his job, management should continue his employment until he retires or dies (3), whereas only 23 percent of United States workers expected that management should take that degree of responsibility. Only 4 percent of Japanese workers felt that management should terminate the worker's employment after giving two weeks notice, compared to 20 percent of United States workers. The largest group of United States respondents (38 percent) felt management need only continue the worker's employment for three months so that he could look for another job; only 18 percent of Japanese workers agreed.

Approximately two-thirds of Japanese respondents, as compared to only one-tenth of United States respondents, felt that a well-managed company should own housing facilities and make them available to workers on a no-charge or low-rent basis (11).

Seventy percent of the Japanese sample stated that when a worker wishes to marry, his supervisor should offer personal advice if requested, whereas only 20 percent of the United States sample favored that degree of involvement by the supervisor in the worker's personal life (11), and 60 percent of the American sample said that a supervisor should not be involved at all in such a personal matter.

More than two-thirds of the Japanese workers reported thinking of their employing company as at least equal in importance to their personal lives (8); the response pattern was almost reversed by United States respondents.

Japanese workers were also much more willing than their United States counterparts to transfer status distinctions found in the company's formal organization to off-the-job situations (10); for example, giving one's seat on a crowded bus to one's supervisor. This willingness on the part of the Japanese workers was interpreted as indicative of closer identification of the individual with the company and its goals (8).

"Cultural Values and Employee Attitudes: United States and Japan."
(Continued)

Finally, although a substantial proportion of both United States and Japanese respondents felt that workers are willing to work hard at their jobs either because they feel it is their responsibility to the company and co-workers (8) or because they want to live up to the expectations of family (11), friends (10c), and society (10c), these attitudes had a broader base among Japanese workers, and United States workers were somewhat more likely to cite pay (3) as the motivating force.

Wicker, Allan W., and Mehler, Anne. "Assimilation of New Members in a Large and a Small Church." Journal of Applied Psychology 55 (1971): 151-156.

Members of two Milwaukee United Methodist Churches, one large (1,599 members), one small (338 members), participated in a questionnaire survey. The sample from the large church was 40 members; from the small church, 26 members.

New members in the small church were assimilated more easily than new members in the large church, assimilation being a composite of participation in church activities (8), felt obligation to participate, sense of "belongingness" (8), and acquaintance with church members.

Wild, Ray. "Job Needs, Job Satisfaction, and Job Behavior of Women Manual Workers." Journal of Applied Psychology 54 (1970): 157-162.

Forced-choice questionnaires and unstructured interviews were used in a study of women manual workers doing highly rationalized jobs (bench-flow line work) in seven electronics factories in the United Kingdom. The sample was composed of 2,159 current full-time employees and 236 previous full-time employees, aged from 21 and under to 40 and over, with job tenure ranging from one month to two years.

The major source of overall job dissatisfaction (1) was the nature of the work. Dissatisfied workers described their work as providing no sense of achievement (4) and making little use of their abilities (5b). Voluntary labor turnover (1) was associated with previous job dissatisfaction. Due to a motivational structure that emphasizes the need for self-actualization (5), a segment of the general population of women workers is predisposed toward an intolerance for highly rationalized work; frustration of the need is expressed in voluntary leaving (1). The majority of workers, however, displayed a lesser need for self-actualization and were generally satisfied with their jobs as they exist.

Besides the nature of the work itself, sources of dissatisfaction (1) were work place ventilation, inefficient and inadequate communication with management, and the belief that workers did not receive a fair deal from the firm.

Job dissatisfaction (1) was more prevalent among younger than among older employees, among single (unmarried) workers, and among those with shorter tenure.

Wilensky, Harold L. "The Moonlighter: A Product of Relative Deprivation." Industrial Relations 3 (1963): 105-124.

> Detailed interviews were conducted in the first half of 1960 with probability samples or "universes" of six professional groups and a cross section of the "middle mass" in the Detroit area, stratified for comparability by age, income, occupational stratum, and other characteristics. The sample included only white males who were members of the labor force and were currently or previously married. All professionals had college degrees. Of the 1,156 subjects interviewed, 119 were moonlighters. Professionals in the sample included solo and firm lawyers aged 30-55 with family income of at least $8,000 in one of the preceding five years; physical science and humanities professors at a large state university and a large church-controlled university, aged 29-55, with rank of assistant professor or higher; engineers (research and development specialists, supervisors, or executives with family income of at least $8,000 in one of the past five years) employed in two large enterprises, one a one-product firm reputed to be a "dead end" for engineers, the other a diversified company reputed to be a recruiting ground for top executives. The middle mass sample included lower-middle-class and upper-working-class men who were clerks, salesmen, craftsmen, foremen, proprietors; marginal, semi- or would-be professionals and technicians; managers and officials with few subordinates, and high-income operatives. Men in this group were aged 21-55 and had family incomes of $5,000 or more but never above $13,000 in the preceding five years.
>
> Moonlighting (10) was found to be associated with having had a chaotic or partially chaotic work history, in which a large proportion of the individual's work life was spent in jobs that were neither "functionally related" nor "hierarchically arranged." Moonlighters (10) tended to experience subjective deprivation (feeling economically deprived, especially in relation to parents) and blocked mobility striving (9): many had tried unsuccessfully to enter a different line of work with higher status or to go into business for themselves, or had undertaken self-improvement activity relevant to a white-collar job, but were unable to move out of the working class. The relationship between blocked mobility striving (9) and moonlighting was especially strong among young (21-29) blue-collar workers. Despite their high occupational aspirations, however, moonlighters had only a modest drive for income (3). Furthermore, despite their subjective deprivation, most moonlighters (10) had a worklife mobility pattern that was either stable at one level or upward; if the upward climb was steep, it tended to involve social and cultural discontinuity.

"The Moonlighter: A Product of Relative Deprivation"
(Continued)

Two characteristics in addition to chaotic work history and subjective deprivation were found to be crucial to moonlighting (10): the moonlighter is caught in a "life-cycle squeeze" in which he has many dependents (11) and his family resources are below his aspirations; also, he is on a deviant work schedule, either shift work (for those in the middle mass) or, if a professional, he has unusual control over his schedule (e.g., most professors and lawyers).

Occupationally, primary jobs of moonlighters (10) were found to be concentrated in occupations with flexible schedules or seasonal slumps and to be concentrated in industries with deviant schedules (shift or night work), irregular hours, or seasonal variations.

Moonlighting (10) was not a "class" phenomenon, differences among occupational groups being far greater than differences between broad strata. It was also found to be independent of two other expressions of the choice of income over leisure: having a working wife, and working long hours.

Williams, A.P.O. "The Managerial Grid: Phase 2. Case Study of a Top Management Team." Occupational Psychology 45 (1971): 253-272.

Semi-structured and structured interviews were conducted with members of a British management team (N = 6) before, three weeks after, and one year after the managers had participated in the second phase of a managerial grid training program. The second phase, following first-phase training, attempted to ensure that previous learning was applied to the work situation by requiring an established work team in the organization to evaluate itself in terms of grid theories. All managers studied were employed in one manufacturing branch of the British-American Tobacco Company.

Interviews conducted immediately before and after Phase 2 showed little change in managers' ideas about needed changes in the organization, but changes seen as needed after Phase 2 that were not mentioned previously included more candor and "critique" in the top team (6b).

In the final interviews, one year after the Phase 2 session, the team perceived that progress had been made in implementing a need for top management and department heads to change their managerial style from authoritarian to team-membership-oriented (6b). Four of the six members were judged to have changed since the initiation of grid training in the direction of being more patient, understanding, and approachable (6b) and more prepared to delegate responsibility (7).

Wilson, Thomas C. "Patterns of Management and Adaptations to Organizational Roles: A Study of Prison Inmates." American Journal of Sociology 74 (1968): 146-157.

Approximately 480 male inmates of a large prison were experimentally assigned to work in two groups, one in which decision-making was participative, the other in which decision-making was bureaucratic. An interview survey was conducted among the 480 inmates after the program was in effect.

Inmates working under participative management were associated with "co-operative" adaptations (6b, working relationships; 8, shared goals), were more likely to communicate with staff (6b), and were more likely to develop close relationships with peers (6b) than were inmates under bureaucratic leadership. Under bureaucratic management, the inmates developed "opportunistic" adaptations (6b, working relationships) but not shared goals (8).

Winn, Alexander. "Social Change in Industry: From Insight to Implementation." Journal of Applied Behavioral Science 2 (1966): 170-184.

A series of laboratory training experiences were developed for and attended by the supervisory personnel (shift foremen through vice presidents) of the Alcoa Aluminum Company of Canada, Ltd. The program consisted of "cousin," "family," and "interface" laboratories. The "cousin" group consisted of a "diagonal slice" across the organizational chart. The people in a specific T-group were not from the same department and were not functionally related. The "family" laboratory involved two or three hierarchical levels of a division, department, or plant. The "interface" laboratory consisted of an intergroup setup such as staff-line or head office-plant personnel, functionally related.

Having participated in the laboratory experience was associated with more participative decision-making (7) and freer, more open communication (6b) within the organization. The laboratory experience also positively affected participants' relationships with their children and wives (11).

Zald, Mayer N. "Power Balance and Staff Conflict in Correctional Institutions." Administrative Science Quarterly 7 (1962): 22-49.

Questionnaire and interview data from five juvenile correctional institutions were utilized in a study of the degree and determinants of staff conflict.

Mixed-goal and individual treatment institutions had a higher level of inter-occupational conflict (6b) than more custodial institutions. Strictly custodial institutions exhibited a single-goal philosophy, specified means, low interdependence of employee groups, and a high degree of routinization, which resulted in their low level of inter-occupational conflict (6b).

An hypothesized power-balance model of conflict was upheld by the study. Custodial institutions that stressed custodial perspectives and gave greater power to cottage parents tended to develop conflict between the teachers, social service workers, and cottage parents (6b) but not between the teachers and social service workers. Generally, the organizational process was found to vest power in a position, after which conflict (6b) developed between inter-occupational sets but not between individuals intra-occupationally.

Zand, Dale E.; Steele, Fred I.; and Zalkind, Sheldon S. "The Impact of an Organizational Development Program on Perceptions of Interpersonal, Group, and Organization Functioning." Journal of Applied Behavioral Science 5 (1969): 393-410.

Two groups of managers were subjects in a study of the impact of an organizational training laboratory and its effects on long-term organizational change. The first group, consisting of between 56 and 90, were "division directors" (vice presidents) and assistant division directors at the two levels immediately below the vice presidents; this group attended stranger T-group laboratories. The second, comparison group, which did not attend training laboratories, consisted of 74 managers at the section head level, the immediate subordinates of the managers in the nonlaboratory group. The comparison group was not matched with managers in the laboratory group, nor could they be kept separated from them in the company's day-to-day operations. Paper-and-pencil questionnaires were administered to all subjects at three times: before laboratory attendance, immediately after attendance, and one year after the start of the change effort.

Immediately after attending the stranger T-group laboratory, managers saw working relationships less optimistically but probably more realistically; perceptions of the extent to which people trusted each other in the company and of the extent to which the managers trusted the people with whom they worked most directly decreased significantly (6b). There were also significant decreases in perceived extent to which managers perceived members of their own work group as frank and open and extent to which people in the company were perceived as willing to accept and use help from others (5a; 6b) and in extent to which the managers perceived themselves as free to seek help outside their units on difficult technical or research problems (5a; 6b; 7) and perceived their boss as open to ideas other than his own (6b; 7).

After one year, changes in perceptions of the laboratory group were compared to those of the nonlaboratory group. The laboratory group, in contrast to the nonlaboratory group, perceived a significant increase in the extent to which people in the company faced conflicts and brought them into the open to be researched (6b) and in willingness of the managers to ask for help (6b). The nonlaboratory group perceived a decrease in the latter (6b). The changes in perceptions resulted in a significant difference between perceptions of the two groups, where none existed before.

Two years after the project began, observers including managers and internal and external consultants rated follow-up activities of 66 managers who had particpated in the training laboratory;

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(Continued)

ratings showed that involved, high learners in the T-group were high initiators of team-development activities at work (6b).

Results of a questionnaire administered to both laboratory and nonlaboratory managers at the start of training and one year later showed no significant changes in managerial orientation toward subordinates and how a manager should behave (6b; 7, directive orientation versus participative orientation). Managers in both groups, however, already held "socially enlightened" attitudes before the training program began.

SECTION B

Published Books and Monographs

Adizes, Ichak. Industrial Democracy: Yugoslav Style. New York:
Free Press, 1971. 297 pp.

This study was carried out in the traditional anthropological field-study method of noninvolved observation and unstructured interviewing, as the situation permitted. It is a study of industrial democracy in two Yugoslavian textile manufacturing companies: "XYZ" and "ABC" (names disguised). Both companies were nationalized and located in or around Belgrade. Also, the two companies were alike in their technology, size, cultural basin from which the companies drew their manpower, ratio of male to female employees, markets to which the companies sold and distribution channels they employed, the government economic instruments (regulating policies) applied, external laws determining the formal organizational structure and the manner in which self-management philosophy was applied, geographical dispersion of plants, age of companies, approximately the same formal organizational structure, and composition of membership in decision-making bodies as measured by education, training, and job positions held by the members of decision-making bodies.

The members of both organizations govern themselves through various means such as referendums, Zbors (conventions), economic unit councils, the Central Workers' Council (highest decision-making body) and the governing board, which translates council decisions into operative tasks for implementation by the administrative body. The administrative body consists of the director of the company, directors of plants and departments, and the various foremen (in a vertical hierarchy), but it has only the power to administer, not the power to govern.

Industry in Yugoslavia was nationalized, and the government, operating through a central plan, had legally prescribed the organizational structures and the governing and administrative roles. Industry was to be run via a participative self-management system. The government also stabilized the politico-economic environment, so that the system could be functional. The environment was considered to be "certain."

The Workers' Council made all financial as well as production decisions (7), and the other elected decision-making bodies and committees made all decisions (7) in regard to hiring and firing (3) as well as disciplining and promotion (9); all of this resulted in a lack of power within the executive ranks (7), in spite of the fact that these administrators were responsible for the implementation of the decisions of the governing bodies.

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(Continued)

The participative, self-managing system, however, did result in the workers feeling a sense of influence on the system (7). In both companies studied, the "withering away" of hierarchical power appeared to develop a consciousness of togetherness (6b) and a gain in the individual worker's self-respect (4). Discipline by the peer groups, however, at times resulted in fist-fights, quarreling and some workers not talking to one another (6b). Also, the participative self-managing system determined rewards by appraisal of an individual's contribution, which resulted in the group decision-making participants evaluating each other and competing for a share of the rewards (3; 6b).

The young, inexperienced college graduate executives felt threatened in their powerless situation (they could not discipline or fire and could only make recommendations to committees in regards to such actions), which resulted in their either giving up on disciplinary suggestions (7) or in their reporting every case, no matter how minute (6b).

When a modernization plan in one of the companies caused some employees to be transferred to a new "unit" in order to maintain their income level (3), many of the employees associated it with a decrease in the self-respect attributed to them by their former group (4) and exhibited behavior such as weeping, arguing loudly, cursing, slamming tables (6b), or simply displaying apathy to the whole issue (1).

Then, in the early 1960's, economic pressure to enter into competitive world markets and the associated political changes in Yugoslavia changed the environment from one of certainty to one of turbulence and uncertainty. These changes were associated with many dysfunctional repercussions in the decentralized, participative self-managing system (7). The laws required the companies to make their plans in general participative sessions, forcing those who had no information about the market or professional knowledge on how to handle it (5b) to participate in influencing all decisions (7). Furthermore, those in daily contact with the environment and those who had the professional knowledge to make the decisions were put into staff positions and were prohibited from making decisions (7). The decentralized, participative self-managing system was not set up to handle uncertainty, which resulted in decisions being passed from one person to the next until either the situation itself dictated the solution or until someone volunteered to make a decision

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(Continued)

and his leadership was accepted (7). This incongruence between the functioning of the organizational structure and the constraints of the organizational environment produced an overall state of tension (6b) and thus the participative bodies began to serve a therapeutic purpose: people could air their grievances and frustrations (2). All of the above resulted in pressure to move toward a vertical, hierarchical structure of individual responsibility throughout the organization, as opposed to the group responsibility characteristic of the horizontal, democratic structure (6b; 7).

The change in the politico-economic environment also caused a change in the companies' goals; they were now more directed toward achieving maximum production. This resulted in the "technocrats" (those individuals with an education and formal knowledge of the intricacies of the uncertain environment and/or production operations) achieving a gain in status (4). On the other hand, the status of the professional political leaders deteriorated (4). Also, the directors lost their internal source of power (7) and did not attain any new material or social status (4).

The transition from the political goal of participative self-management to the economic goal of profit maximization also had the following effects: the shift in power (7) toward those with professional competence resulted in many of the participative meetings being reduced to meaningless formalities (7). Also, several workers intended to quit the Communist Party (7,10) since they felt that it was consuming endless hours of their time for what they now felt to be impotent discussions (7).

Argyris, Chris. Interpersonal Competence and Organizational Effectiveness. Illinois: The Dorsey Press, Inc., and Richard D. Irwin, Inc., 1962. 292 pp.

Questionnaires, interviews, and observation were used to measure the effect of a laboratory program upon the participants and the organization as a whole. The first step of the research was to make a diagnosis of the executive system. Then, research results were fed back to the executives for their examination. The third step was to plan and execute a "laboratory" program to begin the process of increasing the executives' effectiveness.

Eleven top executives made up the experimental group of the laboratory program; seven of their immediate subordinates made up the control group. The experimental and control groups were matched for the values that they had regarding effective human relationships, the degree of perceived conformity in the organization, and the degree of interpersonal competence. The groups were not matched in the dimension of the degree of freedom the executives felt they had to change. The experimental group, which was also the top hierarchical group, reported greater freedom to change than did the control group.

Two weeks after the laboratory, a group of five subordinates and peers who did not attend the laboratory reported that they perceived the laboratory as having changed their superiors in the direction of being more patient, better listeners, and more sensitive to others' feelings (6b). The laboratory experience was also observed to be associated with the development of collaborative problem-solving (6b) on the part of the executives who had attended the program.

Three weeks after the laboratory, a diagnostic group session was held with the executives who had attended the program. The session revealed that the laboratory program was perceived by the executives to be associated with greater confidence in oneself and others (4), a greater appreciation and understanding of the viewpoints of others (6b), and greater internal commitment (8). The laboratory experience was also found to be associated with the executives' feeling greater irritation toward infringement upon their jobs (2;7) and with greater trust and confidence about themselves and their work group (4;6b). A diagnostic session held with the control group after the same time period showed that they perceived the laboratory program's effect upon their superiors to be: better listening, more patience, more understanding, and less controlling (6b;7). The effects, however, appeared to be wearing off after the first couple of weeks. The experimental group's new behavior was associated with the control group's feeling as if they didn't know how to behave (4), which, in turn, was associated with the experimental group's reverting back to old behavior patterns (6b) due to the lack of feedback.

A change in the organization, from group meetings to "brief the boss" to group meetings to "help each other get the job done "

Interpersonal Competence and Organizational Effectiveness (Continued)

was associated with the experimental group's feeling less dependent upon the top executives (7).

Six months after the laboratory program, interviews were conducted with the members of the experimental group. These interviews re-emphasized that the laboratory experience was associated with greater trust and mutual confidence (6b), openness, "leveling," and the decreasing degree of conformity, fear, and unnecessary "politicking" (6b). The experimental group also felt that after six months they were able to use their newly-learned tools within their organizational settings (5b). The experimental group felt that their relationships with peers and subordinates, who didn't attend the laboratory program, were starting to improve (6b). The laboratory program was associated with the experimental group's undergoing a change in attitude: they now felt that "group members as well as the leader were responsible for keeping the group on track" (7).

Finally, nine months after the laboratory experience, the researcher attended a meeting involving the members of the experimental group. The executives who attended the laboratory program felt that it was associated with a reduction in overall tension (2) while working within their divisions.

Baldamus, W. Efficiency and Effort. London: Tavistock Publications Ltd., 1961. 139 pp.

This study is basically an analysis of the problems in industrial administration and a conceptual scheme of their causes. The author rejects the conventional postulate that assumes industrial conflict to be a superficial and temporary 'imperfection' in a system that fundamentally maintains a natural harmony of interests between employers and employees. In place of that idea, the author argues for the presence of various incongruences that exist between the needs and expectations of the employee and those of his organization or employer. In searching for these causes of industrial conflict, the results of previous experiments were utilized.

It was found that as the general level of unemployment in the surrounding community increases, the labor turnover within the industries of that community decreases (1). Also, the lower the skill level and the more repetitive the work, the greater the rate of labor turnover (1). If a company operates on a standard five-day week, the day of the week is associated with the absentee rate (1). Monday has the highest and Friday the lowest rate of absenteeism (1), with the days in between getting progressively worse. As skill level increases, however, the difference in absentee rate between Monday and Friday diminishes (1).

Changes in market demand are associated with changes in the wage structure in a particular industry (3). Promotion (9), merit rating, job-evaluation, and piecework are associated with controlling effort (7) in order to keep it in line with its wage level. The above aspects of the reward structure, along with machine pacing, are associated with controls to stabilize effort (7). Rate setting is associated with controlling effort intensity (7).

Repetitiveness and the length of the time cycle are associated with tedium (2, mental fatigue). The elimination of distracting and irritating activities, resulting in a "rhythm pace," is associated with greater perceived contentment on the part of the worker (2). Occupational skill level is negatively associated with the degree of coercion and weariness experienced by the worker (2). Generally, the work reality of physical conditions (6a) is associated with impairment (2, the state of mind of a person aware of the physical discomfort due to physical work). Also, routines were found to be associated with weariness (2) and repetitiveness to be associated with tedium (2).

The scale of occupational status is positively associated with one's perceived moral obligations toward work (8). Also, tenure is associated with turnover rates (1). The longer an employee's tenure, the lower the turnover rates (1). The incongruence between incentive conditions (3) and pay expectations (3) is associated with strikes, "go-slows," work stoppages, and the like

Efficiency and Effort
(Continued)

(1). Wage disparity (3), in which the effort demanded of the laborer is not congruent with his wage expectations for that amount of effort, is associated with conflict between the employer and the worker (6b) and labor strikes (1). Economic depression is associated with increased wage disparity (3), whereas an increase in trade-union power is associated with a decrease in wage disparity (3).

Barrett, Jon H. Individual Goals and Organizational Objectives.
Ann Arbor: Institute for Social Research, University of
Michigan, 1970. 119 pp.

Subjects of this study were employees of a large, modern oil refinery located in an industrial city of about 100,000 population in the southern part of the United States. The work force is fairly old and stable, predominately male, and mostly rural in background, with a moderately high level of education for workers in a manufacturing organization.

Included in the present study are 1,781 of the refinery's employees, representing all major classifications of employees except the following: apprentices, a small group of unskilled laborers, and secretarial and stenographic employees. The three major divisions, all 18 departments, and every level of management are represented in the study.

Age and rural/urban background were not associated with perceived goal integration (8, the degree of coexistance between organizational objectives and individual goals). College graduates were the only educational level associated with perceived goal integration (8).

Tenure in the organization and the general nature of the work were not associated with goal integration (8). Position in the hierarchy was associated with goal integration (8, the higher the level, the greater the goal integration).

Individuals' feelings of loyalty and commitment (8), motivation, and satisfaction with the job and the organization (8) were all positively associated with the amount of goal integration experienced (8).

Use of exchange mechanisms (i.e., a barter of extrinsic reward in exchange for performance) was not associated with the degree of goal integration (8). Specifically, pay (3) was negatively associated with degree of goal integration (8), and informal social relations (6b) were neutral in their association with degree of goal integration (8).

Socialization mechanisms (i.e., the use of social influences) were associated with degree of goal integration (8), with leader socialization (6b) showing a somewhat stronger relation to degree of goal integration (8) than peer socialization (6b).

Accommodation mechanisms (the organization taking individual goals into account) were the most strongly related to degree

Individual Goals and Organizational Objectives
(Continued)

of goal integration (8), with role design and participation (7) showing equally strong associations with degree of goal integration (8).

The accommodation model was consistently high in its association with degree of goal integration (8); its utilization among research and development teams showed the highest correlations.

The socialization model was not as consistent as the accommodation model. The association with degree of goal integration (8) was highest among groups having lower average education, longer tenure, and rural background.

The exchange model was very unstable, with low positive associations with degree of goal integration (8) occurring among production groups, non-managerial personnel, and employees with a high school education or less. On the other hand, it was negatively associated with degree of goal integration (8) among research and development as well as administrative groups, college-trained members, supervisory personnel, and members with less than 20 years tenure.

The three models taken together were less associated with goal integration (8) than was the use of each model separately. The use of "positive" mechanisms from the three models (3, greater pay; 7, influence to adopt a new behavior, design for people's needs) was more associated with degree of goal integration (8) than was the use of "negative" mechanisms (3, holding pay back as threat; 7, influence to stop an old behavior pattern, abandonment of company methods that are incongruent to employee's needs).

Exchange mechanisms did not show higher positive relationships to goal integration (8) for persons who ascribed great importance to the goals implicit in these mechanisms than they did for persons who ascribed lesser importance.

Exchange mechanisms, used conditionally, showed considerably lower relationships to goal integration (8) than did the unconditional provision of the same mechanisms (i.e., 3, pay; 6b, informal social relations).

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Blauner, Robert. *Alienation and Freedom: The Factory Worker and His Industry*. Chicago: University of Chicago Press, 1964. 222 pp.

In a study comparing male and female blue collar industrial workers in four distinctively different industries utilizing four different types of technologies, relationships between technology, social structure, and personal work experience were explored. All of the organizations were privately owned and were distinguishable by the following technologies and sample sizes:

1) Printing companies (N = 115): craft technology.
2) Textile companies (N = 400): machine-tending technology.
3) Automobile companies (N = 180): assembly-line technology.
4) Chemical companies (N = 78): continuous-process technology.

For printers (craft technology), it was found that with the printer's union holding control over entrance to the trades, printers have a great deal of stability of employment (3). By the very nature of craft technology--its traditional skills are the main job requirements of the tasks involved--printers have a high degree of control over the technical environment (7). The absence of division of labor and fractionation of individual tasks results in a perceived feeling of meaning and purpose as opposed to futility (4). The craft worker develops a strong identity with his occupational role, resulting in his integration and membership in his occupational community (6b). All of these aspects of craft technology result in feelings of having the opportunities for expressing both present resources and skills (5b) and developing new potentialities (5a). Working as a printer did not result in a high rate of voluntary quitting of job (1). Printers were also the occupational group with the lowest percentage of workers who felt that their jobs made them too tired (2). Printers had the second highest percentage of workers who felt that their job would lead to a promotion (9).

For the textile worker (machine-tending technology), due to economic conditions only the older workers with years of seniority with one of the few large, prosperous mills could feel secure about their jobs (3). The machine-tending technology and division of labor reduced the typical worker's control (7) over the immediate work process to a minimum (7, constant work pressure, inability to control the pace and rhythm of his work activity, lack of choice of work techniques, and absence of free physical movement). The above aided in development of a "police and enforce" supervisory role (6b). Being a woman in a southern mill was associated with a task role having the least control (7) and least social status (4). The extreme division of labor and great fractionation of task roles resulted in textile workers feeling that they did not play an important role in the companies' overall scheme of things (4). The worker's relation to the larger community (10c), rather than the integration of functional work groups, resulted in social cohesion among textile workers (10c, church and community involvement). Due to the machine-tending technology, textile workers perceived their jobs as being extremely non-involving (5). All of the above resulted in the workers' feeling that they were not being given the opportunities for using their resources and skills (5b) nor the conditions for developing new skills (5a). Working in small mill towns having a high degree of community integration (10c) resulted in feelings of loyalty to the employer (8). Work in the textile industry, however, did not provide an occupational identity approved by the self and by others (4). The rate of workers quitting their jobs (1), however, was the same for the textile industry as for the printing industry. Textile workers expressed the highest percentage of responses that their jobs made them tired (2) and, along with automobile workers, had the lowest expectation of their jobs having potential for an advancement (9).

For the auto worker on the assembly line, growing mechanization and its threat of permanent technological unemployment was associated with considerable economic insecurity (3). Machine pacing of assembly work resulted in the workers' experiencing a loss of control over their task environment (7) and also caused feelings of great work pressure. The machine pacing also resulted in a lack of control over quality and quantity of output (7). Assembly workers also experienced lack of control over the methods of accomplishing tasks and over physical mobility (7). The extreme rationalization of assembly line jobs, coupled with a lack of clear identification with a particular job, resulted in workers feeling that they had no individual effect on total output and no relevance to any of the company's ultimate missions (8; 4). The large bureaucratic factories, combined with frequent changes in job assignments and a technology that set up obstacles to the formation of informal, functional work groups (due to extreme division of labor and specific functionalization), reduced the social cohesion of the work force (6b). Also, due to the static conditions of the production process and the fractionation of task assignments, workers felt there was no challenge to their abilities (5b) and that there was curtailment of the average worker's ability to grow and develop by attaining new technical knowledge or experience from his work environment (5a). Also, there were no redeeming qualities, such as the community integration found among textile workers, to counteract the self-estrangement and thus preserve some aspects of job satisfaction.

Automobile assembly line workers had the second highest rate of response that their jobs made them too tired (2). They also expressed the lowest rate of expectation that their job would lead to a promotion (9).

For chemical operators (continuous process), the number of workers necessary to operate and maintain the equipment has already been reduced by automation to a minimum; thus, there is more job security in the chemical industry than in any of the other industries explored (3). This is further exemplified by the fact that continuous process workers voluntarily quit their jobs the least (1 and visualize their jobs as leading to advancement (9) the most of any of the industries studied. The continuous process technology is highly stratified along the lines of skill, status, job grade, pay scale, department, and type of work, resulting in the integration of the worker into the factory community (6b). A small work crew is responsible for the quantity and quality of the output (4). The special technological characteristics of the continuous process give the workers a great deal of control over their work environment (7), resulting in a great deal of spare time and a decrease in the amount of job pressure felt (2). Thus, workers express a much lower feeling of being over-fatigued (2). Not only does the technology allow the workers to control their quality of output (7), it also allows freedom in the technique utilized to accomplish any given task situation (7). The technological continuous process also allows control over physical movements (7).

Process production, team operations, the job requirement of responsibility, and the physical freedom of movement enhance the workers' sense of providing a unique, important function with a purpose he understands (4). Working in small groups, emphasizing team production, and non-overbearing supervision contribute significantly to the integration of the work force into a cohesive industrial community (6b).

Associating oneself with the continuous process organization, as opposed to one's occupational role within the organization, gave rise to an increase in perceived self-esteem (4). Also, 92 percent

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of the workers interviewed expressed the feeling that ... "this is the best place to work" (8). Although some workers did feel that their jobs did not allow them to utilize their skills all of the time (5b), nearly all of the workers felt that their jobs enabled them to constantly learn new things in regard to the technical environment (5a).

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Brooks, Dennis, and Smith, Randall. The Human Effects of Mergers. 3. The Impact on the Shop Floor. London: Acton Society Trust, 1966. 166 pp.

Researchers used semi-structured interviews to gather data from a sample of 10 percent of hourly-paid workers employed in eight self-selected manufacturing companies, which had recently undergone a merger. The findings report the following effects of the merger.

The merger of a smaller company with a larger one resulted in increasing formalization of communications (6b) in regard to industrial relations policies and procedures and promotion policies (9). This type of merger (a smaller company with a larger company) resulted in those employees who were over retirement age being compulsorily retired by the company (3). A lack of complete information and a poor perceptual image of the acquiring company was associated with heightened anxiety on the part of the shop floor workers of the acquired company (2). Most part-time and married female workers were indifferent to their fate after a merger (1).

Uncontrollable changes occurred in some of the companies that could have caused or greatly influenced any of the above associations:

1. In company 2, a new automatic "big machine" was installed, causing "utter confusion" preceding the merger.
2. In company 6, a radical change in the methods of production inspection occurred immediately prior to the actual visit of the researchers.
3. In company 7, just before the investigators arrived employees were made to sell their shares in the company and the annual bonus was abolished.
4. In company 8, a radical retiming of jobs had just been introduced into one of the major departments, which resulted in time allowed for some jobs being cut in half.

[Abstracted from book review by Rodger Williams, Occupational Psychology 41 (1967): 253-255.]

Brown, Wilfred. Piecework Abandoned. London: Heinemann Educational Books Ltd., 1962. 119 pp.

This study is concerned with the change in the reward structure of the operatives in numerous factories of Glacier Metal Company, Ltd. Originally, payment of operatives was based on an individual piece-rate incentive scheme. The change was to a flat hourly rate. Data were collected during approximately 15 years of research at the company, using observation and interviews.

Individual piece rate wage incentives (3) were associated with operators becoming anxious (2) about the lack of availability of correct tools and/or materials (6a), as well as with the operators not sharing acquired new knowledge lest it be taken into account when the job was re-timed (5a;8). The wage incentives were also found to be associated with jealousy among workers in regard to getting "good jobs" (6b, those jobs on which it was easier to attain a bonus). The pay system was also associated with the foreman's inability to control the production process (7). When wage incentives were in use, the batch size effected earnings (3).

Referring to Eliot Jacques' work at Glacier Metal, a significant correlation was found to exist between the time-span of unreviewed use of discretion (7) and the operators' perceptions of "fair pay" (3). In the Service Department, a change from piece rates to flat rates was associated with workers' feeling that their skill was better recognized (4) and with the supervisors being more directly involved in the leadership of subordinates (7). In the same department, the change in the reward structure was not found to be associated with labor turnover (1).

Generally, the change from an individual piece rate wage incentive to a flat rate (3) was associated with managers being able to spend more time thinking about production problems (5b), greater freedom of action for managers in the distribution of work between operators (7), and with managers being given sole responsibility for the assessment of the appropriate level of pay (3) for each individual operator (7). The change in the reward structure was also found to be associated with operators' decreased resistance to change in production methods, introduction of new plant, or reorganization (8), along with a decrease in feelings of hostility and suspicion between managers and operator representatives (6b). With the change in the reward structure, the differential pay position of each described category of work became stabilized and clear (3).

Finally, the abolition of time clocks in all the factories was associated with a gain in managerial control (7).

Buck, V.E. Working Under Pressure. New York: Crane, Russak & Company, Inc., 1972. 252 pp.

Job pressure was examined in a small manufacturing company located in a small rural town in New York State. The company was an old, established, community-based firm that utilized a batch production technology primarily in manufacturing large capital goods equipment -- environmental conditions that generally result in the work force experiencing little job pressure. The data for this study were collected by means of questionnaires as well as interviews with both the managers and workers of the company.

"Job pressure" was defined as the resultant psychological state of the individual who perceives that conflicting forces and incompatible demands are being made upon him in connection with his work; at least one of the forces or demands is an induced one; and the forces are recurrent or stable over time.

For managers, the inability to avoid all the errors and accompanying penalties of their jobs, the inability to call on others for help in solving difficult problems, the inability to delegate tasks and responsibilities (7), and the inability to give promotions to employees on a merit basis (9) were all associated with their perception of experiencing "job pressure" (2). For workers, the inability to earn the respect of their supervisors (4), the inability to present the good side of their work, the inability to know all phases of their job, the inability to increase their technical competence on their jobs (5a), and the lack of needed tools, equipment, parts, and materials were all associated with perceptions of experiencing "job pressure" (2). Generally, managers who perceived their employees, the company, and their supervisors as being supportive were associated with experiencing low "job pressure" (2). Workers who saw their families as particularly supportive(11) were significantly less likely to have reported working under pressure (2).

Utilizing personality questionnaires, it was determined that managers who were high on needs abasement, inavoidance, superego conflict, and narcissism tended to feel they work under pressure (2). Workers who were high on needs for abasement, deference, and "blamavoidance" as well as superego conflict reported significantly more feelings of working under pressure (2). Both managers and workers who were high on need understanding and who were low on interpersonal affiliation needs tended to experience more "job pressure" (2).

Looking at environmental variables, one overriding picture emerged. Managers who saw their own supervisors as inconsiderate, uncommunicative, unappreciative (6b), and non-participative in decision-making (7) significantly reported working under more "job pressure" (2). Workers who perceived themselves as experiencing significantly more job pressure (2) reported that they had heavy work loads; that mistakes were expensive and involved

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(Continued)

penalties; and that they had conflicting assignments, little sense of accomplishment (4) or opportunity to use favorite abilities or creativity (5b), and little incentive on their jobs (3). Managers who perceived their jobs as being under pressure (2) were associated with worrying about job problems (2, mental health) at home (11). Workers who perceived themselves as working under pressure (2) were associated with becoming angry over little things on the job and feeling that their friends all expect different things from them (2, mental health). Workers who felt that benefits were not good were associated with feeling greater job pressure.

Workers, significantly more than managers, reported that they felt no one was interested in their possibly helpful ideas (4) and that they did not feel that they could talk with the "higher-ups" in management any more (7). Both workers and managers who felt that they were not kept well informed were associated with feeling that they were under pressure (2). Both managers and workers who felt their future with the company was in doubt reported working under more pressure (2).

Managers were significantly more likely than workers to perceive their job as allowing them to be creative and to use their own initiative (5b;7). Managers also were associated with feeling that they had significantly more control over their work (7) than workers. Both managers and workers who viewed their possibilities for promotion (9) and their available opportunity in the company as being poor were significantly associated with feeling under pressure (2). Also, both managers and workers who felt that the company did not work together as a team were associated with feeling under pressure (2).

Managers who were proud of their work groups and who felt included as members of them (6b) were significantly associated with feeling less work pressure (2).

Finally, employees who reported that their supervisor was open to change, did not insist that everything be done his way, discussed change in advance with his subordinates, was willing to explain his actions, solicited suggestions, compromised on points, was friendly, did not act officiously, tried to let people know where they stood, and was available tended to experience less "job pressure" (2).

Burns, Tom, and Stalker, G.M. The Management of Innovation. London: Tavistock Publications Limited, 1961. 269 pp.

This book integrates empirical data and theoretical discourse regarding organizational responses to environmental conditions. The methods followed were common to "field sociology" and to social anthropology and were directed toward gaining acquaintance with the routines of behavior current in the particular social system, by means of observation and conversation. Besides interviews and observations, meetings and lunch-time conversations were used.

The concerns of the study were the comparative management structures that developed in two different organizations (a rayon mill and an electronics firm) in the course of their adaptation to two different environments. The rayon plant produced viscose rayon filament yarn, employed about 900 persons, and operated in an environment that, in terms of technical and market conditions, approximated stability. As an adaptation to such an environment, the firm's management structure resembled what Burns and Stalker refer to as "mechanistic".

The electronics firm, on the contrary, operated in a complex, rapidly-changing environment. These extrinsic factors were identified as different rates of technical or market change. By change, the study means "the appearance of novelties: i.e., new scientific discoveries or technical inventions, and requirements for products of a kind not previously available or demanded." In adapting to such an environment, the firm's management structure had become "organic". An "organic" management structure is characterized by: the contributive nature of special knowledge and experience to the common task of the concern (5b); the "realistic" nature of the individual task, which is seen as being set by the total situation of the concern (5); the adjustment and continual redefinition of individual tasks through interaction with others (6b;7); the delegation of responsibility as a limited field of rights, obligations, and methods (7); the spread of commitment to the firm, beyond any technical definition (8); a network structure of control, authority, and communication (7); omniscience not imputed to the head of the firm (7); horizontal communication resembling consultation rather than command (6b;7) importance and prestige attaching to affiliations and expertise valid in the industrial, technical, and commercial milieux external to the firm (4).

Additional findings of the study revealed that a change from one management structure to another tended to break down human relationships and create bitterness (6b). The study also revealed certain occurrences that were associated with the development of electronics firms. In the Scottish firms, the loose social structure (6b) and the high pay scales (3) led to the isolation of the laboratory team (1). It was also noticed that, in most firms that utilized a bonus payment plan (3), political alliances formed against the company, as "rate-busting" was regarded as

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(Continued)

disloyal behavior and condemned in any individual worker by his fellows (6b). The bonus plan (3) also encouraged workers to avoid reporting bad materials or spoiled work and, instead, to work on it as if it were up to standard (1).

Generally, research departments within the organizations studied were associated with loose social structures (6b). There was also a general consensus that, to be a good laboratory engineer, one had to have good social skills: to be able to work with people (6b). On the other hand, production engineers associated themselves with complete job and task description, "to do away with all skill of the individual" (5;7).

The simplest and most direct consequence of the special status (4) ascribed to the industrial scientists was that they became detached from the rest of the concern (1); in most instances, there was a metaphorical, if not an actual "brick wall" between the laboratory and the rest of the concern, which resulted in the avoidance of laboratory scientists (6b) by other staff. Both by his demeanor and by individual strategies, the industrial scientist seemed to claim increased recognition of the importance of technical information as a business resource and, therefore, to demand increased standing for himself (4) as controller of the sources of such information. He also claimed increased control over the processes of manufacture and over the conduct of the business (7) as well as claiming quasi-elite status within industry (4) as a vitally necessary functionary who is, nevertheless, not dependent on industry for a livelihood (3) or for status (4). The industrial scientist also claims for himself semi-independence of the authority of management (7).

Chadwick-Jones, J. K. Automation and Behaviour: A Social Psychological Study. London and New York: John Wiley and Sons, Ltd., 1969.

Two separate research projects were carried out in a before-and-after comparison of the attitudes and behavior of workers in the tin plate steel industry who underwent a major change, beginning in 1957, in which they were transferred from hand-operation jobs in a batch production mill to jobs in a new automated, continuous-flow plant. Depth interviews and observation were carried out with two comparable groups of steel workers having comparable work experience and living in the same township, from which the old mill had recruited all its workers. In the first study, conducted in 1956-1957, before the changeover, the sample consisted of 47 operators and ancillary workers in rolling and tinning operations (primarily "semiskilled" jobs), selected from payroll lists as a one-in-five random sample of the various job grades. Mean age of workers was 46. The second study sampled 51 workers (all those transferred from the old factory to the new plant), starting the interviews in 1962--six years after the first transfers--and continuing them through 1966. Method and questions were the same as in the first study, except for the addition of questions comparing aspects of jobs before and after the change. In 1963, workers in the second sample were also interviewed in their homes; wives were interviewed at that time.

Before the changeover, the pre-automation batch technology with hand methods was found to be associated with autonomy of work groups (7) and interdependence of work roles, which were associated in turn with informal exchange of tasks for increased work variety (5) and added relief breaks, all related to an overall behavioral norm of mutual help and cooperation (6b). These group norms of supportive social relations within the work crew (6b) were reinforced by the process of self-selection of crew members (7) through the union branch. The work group skill hierarchy--related to the requirements of the technology--ensured steady promotional advance (9), which was also a reward for and inducement to conformance with group behavioral norms (6b).

Work group autonomy (7) was also an outcome of the low level of technological refinement of operations (there was no need for expertise beyond that of upper-grade senior workers within the work group) and of payment by group piece rate (senior workers within the crew were free to regulate hours and production rate according to their judgment (5b) of technical conditions and group members' capacities at any given time).

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The social closeness among work crew members (6b) was also a stimulus to community social activities (10), in which group members participated together. The converse was also true: the community social structure (10, workers all living in same community; extensive kinship ties in community; long residence; positive community orientation toward mill work) shaped work group social norms (6b) in accord with those of the community.

Working in the batch production mill was associated with feeling one's job was interesting (5a), responsible (4), and one that required skill and "art" (5b; 4), and with pride in being able to do the heavy physical work (4). The impending changeover to automated technology, however, was seen by workers as depreciating their status in the community (10; 4).

After the changeover to continuous-flow production jobs in the new automated factory, the more complex technology and changed organizational and job structures meant control over operations (7) was now shared by workers with supervisors, maintenance staff, and management, who used criteria beyond the range of skills possessed by the workers, decreasing workers' control over both technical factors and interpersonal relationships in the work group (6b). The higher ratios of managerial and supervisory staff, dissimilar work and educational experience of workers and supervisors, and lack of community ties (10), caused by recruitment of employees from many scattered urban areas instead of a single township, caused workers to perceive management as "distant" (6b; 1). At this intermediate stage toward full automation, there was no evidence of the supervisory relationship with employees becoming closer through shared responsibility (7).

Supportive social relations within work groups (6b) were decreased radically by the cutting of ties between work group and community (10) caused by recruitment of workers from diverse areas; continuous shifts (10, workers could no longer engage together in community social activities on weekends); location of factory site at a distance from residence areas, so men could no longer walk together to work; and by increased size of work teams, physical distance, lack of mobility, and high noise level (6a), all of which were consequences of the technology that restricted communication between workers. Community influence (10) could no longer counterbalance the authority hierarchy of the plant nor influence work group norms (6b) by incorporating community values into normative behavior at work; this, the inability to choose

Automation and Behaviour: A Social Psychological Study (Continued)

work mates (7), and lack of worker ties to a single community (10) resulted in a change from mutual help in working and learning new skills (5a) that could bring promotion (9) to competitiveness (6b) and the sense that workers liked to see others making mistakes (1). Because of the new discontinuity between work and community (10), there were fewer activities in which workers' interests and identity merged in leisure and work (8). From former "family" feeling toward the work group, workers came to feel that each was a lone individual among many (1), especially due to lack of community ties (10).

The transfer from weekly shifts with weekend rest periods to continuous shifts on the alternate pair system, combined with longer weekly hours, curtailed social life and friendship relations among operatives away from work (10) and altered the leisure pattern to one centered more on the home and nuclear family (11). By creating a break in the wider leisure group, continuous shifts were negatively associated with positive social relations within the work group (6b), which had been supported by accumulated positive relations during leisure (10).

Because the automated technology removed much of the need for decision-making by operatives (7), workers from the old plant felt they were not using their skills and experience (5b). The job structure (including longer shifts, repetitiveness of tasks, and need for vigilance to signals insufficient to maintain interest) caused boredom and lack of interest in jobs (1), especially among production and ancillary line workers and most strongly among former production workers demoted to laboring jobs (9), who felt their jobs were trivial (8) and beneath their abilities. For those who were not production workers, boredom (1) was associated more with feeling a lack of immediate purpose in their jobs (4) and feeling lack of responsibility (7). Lack of perceived opportunity for promotion (9), the result of a management policy of introducing younger operatives into top management (thus preventing advancement through grades) was also associated with boredom (1). Workers from the old plant felt they were not using their skills and experience (5b), due to the reduced need for decision-making. Simplification of jobs and demotion from production to laboring jobs (caused by a company age limit of 45 years old for hiring as production operator) decreased workers' pride in their work and sense of prestige (4), especially among those who had seniority and higher positions in the work group hierarchy in the old mill.

Automation and Behaviour: A Social Psychological Study (Continued)

Many employees from the old mill complained of greater tiredness (2) despite the less physically taxing work and attributed it to repetitiveness of tasks, absence of stimuli, noise, fixed work place, and lack of time to relax. The fixed speed of the machine systems and perceived greater supervisory controls were seen as reducing personal freedom (7; 1).

Chinoy, Ely. Automobile Workers and the American Dream. Boston:
Beacon Press, 1953.

In a study of automobile workers employed in a major plant in a middle-sized midwestern city ("Autotown"), 78 prolonged interviews were conducted with 62 workers. During the 14-month research period, the author also joined the union (the U.A.W.) and worked on the assembly line for a few weeks. The study was "an attempt to explore how [automobile workers] live out their versions of the American dream in a world in which there is a palpable disparity between their experience and the prevalent myth."

The author notes that the "tradition of opportunity and success has long been a folk gospel deeply embedded in American life"; in the past few decades, however, the leveling of the rate of population increase, the growth of giant corporations with specialized technical and managerial staffs, and the concentration of industry have reduced opportunities for individual advancement (9). Lacking both specialized skills and substantial capital, factory workers are severely handicapped in their chances to "get ahead" (9); they are caught between "the promises of a widely affirmed tradition and the realities of the contemporary economic and social order."

Because of prevalent current market and economic conditions, the automobile industry cannot offer substantial opportunity to workers who want to set up independent businesses as suppliers to the industry; also, seasonal layoffs, materials shortages, and the like have put men out of work (3) and made it hard for auto workers to build savings (3) despite their relatively high wages (3). Advancement within the plant (9) is also difficult due to plant size, the difficulty of gaining personal recognition, the gap between the managerial hierarchy and manual work, and current educational and skill requirements for managers and engineers, which semiskilled or nonskilled workers lack. The increasing mechanization of production and the separation of management and labor have "concentrated control (7) in the hands of technicians and executives and have left workers with little chance to exercise judgment (7; 5b), assume responsibility (7), or develop significant skills (5a)." The majority of automobile workers do tasks requiring little or no training (5a). Due to the necessity for apprentice training (5a) for skilled, better-paid jobs, the difficulty of meeting age and education requirements for such training, and the small size of apprenticeship programs, it is difficult for nonskilled workers to gain entry to the skilled occupations. Also, rules established by collective bargaining have made it difficult for employees to acquire journeyman skills (5a) except through formal training.

In unskilled and semiskilled jobs within the industry, there was relatively little wage spread, and promotion to a job that coined a higher wage rate was governed by the seniority rule, as set by the union contract; therefore, it was unlikely that workers could achieve a substantial wage increase through promotion from one nonskilled job to another (3). Opportunities for promotion to foreman (9) were also severely limited for nonskilled workers: opportunities were better for skilled workers, management was more likely to choose men with formal training over those who had simply performed well on their jobs, and there were no clearly defined criteria of merit to guide workers who wanted to become foremen. Foremanship, however, was virtually the only way up for factory workers.

In **sum**, the opportunity structure of the factory (9) does not "live up to the rich promises of American tradition," which affects workers' goals and attitudes in several ways. Most of the workers interviewed lack hope for or interest in the possibility of rising into the ranks of supervision (9). A majority of the nonskilled workers (37 out of 47) expressed no active interest in advancement via skilled work (9), and few defined their goals in terms of the better-paying next job in their department or division: goals did not follow the formal wage hierarchy (3). Instead, there was an informal hierarchy of job desirability which had little relation to the "tradition of opportunity" and in many cases even involved lower-than-average wages (3): the determinants of desirability were regularity of employment (3) and the relative absence of physical and psychological strain (2). Line assembly was least desired because of its frequent temporary layoffs and short work-weeks (3), its coerced rhythms (7), the inability to pause at will for a moment's rest (7), the need for constant attention to simple routines, and the fatigue (2) that resulted. Machine operation was preferred because it did not keep men tied as tightly to their tasks (7). In this routinized job world, irregularity of tasks and tempo became attractive. Off-production jobs were also preferred because it was felt that they were less likely to have authoritarian foremen (6b).

Generally, nonskilled workers expressed little that was positive in their job preferences (1): the nature of their jobs focussed attention on avoidance of strain and discomfort rather than hope for work that would engage interests and abilities (5;5b). As a result of these conditions, interest in the possibility of leaving the factory (1) was high among the workers interviewed; this widespread interest in leaving was primarily an outcome of alienation from work (1) in the plant and the feeling that there was no future there (9), rather than strong commitment to out-of-shop goals (1; 9). Alienation from work (1) was also associated with division of labor and plant technology, which alienated the worker from the final product he helped produce (1). The work alienation (1) of these workers explains in part their responsiveness to the values of the small-business tradition (10) and their preoccupation with entering small business or farming (1), in which they see the opportunity to attain "a rich sense of self" (5) and to be independent from others' control (7).

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Automobile Workers and the American Dream
(Continued)

Due to the mechanization of business and farming as well as the severe competition in businesses requiring little capital and the high risks of failure in both undercapitalized small business and in farming, automobile workers -- who generally had only small savings -- either could not start independent ventures, or failed in them. The difficulty of amassing capital for such ventures was exacerbated by a culture that emphasizes immediate gratifications of desires for consumer goods (10a) combined with working-class background and the attractively high wages (3) of nonskilled automobile factory work: lacking any model for deferred gratification, the working-class youth is likely to forego a lower-paying apprenticeship, get nonskilled factory work for the pay it offers -- often leaving high school to do so -- and to spend lavishly (10a). Once married and/or having become parents (11), they must concentrate on the financial present; they lack money and job security (3) sufficient to plan for the future. The longer they remain in the plant, the less seriously do they consider the possibility of leaving (1); they begin to put heavy stress on the security of long seniority (3).

The impossibility of reconciling the tradition of opportunity and advancement through merit and hard work with the realities of their lives challenges automobile workers' self-regard and self-esteem (4): they are left with the feeling that their failures are due to personal inadequacies (4). They use consumption (10a) and accumulation of material possessions (10a) to rationalize their failure to achieve occupational advancement (9). They also try to cushion the impact of failure and maintain identification with the tradition of opportunity by projecting their unfulfilled ambitions upon their children (11), emphasizing college education and professional achievement for them.

Dalton, W. Gene; Barnes, B. Louis; and Zaleznik, Abraham. The Distribution of Authority in Formal Organizations. Boston: Division of Research, Graduate School of Business Administration, Harvard University, 1968. 229 pp.

In this study, 153 professional employees (scientists and technicians) and managers in an applied research and development center of a large, privately-owned corporation completed two sets of questionnaires: the first before the implementation of a new organizational structure and the second after 15 months of experience with the new plan. Seventy-five of the sample participants were from departments that underwent the change; eighty-one were from departments that did not. Responses to the questionnaires provided the largest block of data for purposes of analyzing the effects of the change. A second body of data developed from interviews and the study of records over a three-year period following the introduction of the plan.

The organizational changes were as follows:

1. The organizational structure in the departments involved was "flattened" through elimination of one level of senior management.
2. "Project groups" were to be used as the central unit of organization, with a junior manager (the project leader) having primary responsibility for the completion of the assignments given his group (5a; 7). Previously, the senior manager had this responsibility.
3. Interfunctional committees at the junior manager level between Research Development and Sales were to be formed. The junior manager would also handle contacts with all parties outside of the central unit, a function previously handled by the senior manager. The interfunctional committees would be responsible for the accelerated development of specific new products.
4. The senior managers in these departments were to divorce themselves from much of the daily administration of the groups in their departments and spend half of their time on long-range technical planning.

These structural and role changes were associated with the following attitudinal and perceptual changes. In an overall measure, twice as many (percentage) of the "change" group as the control group perceived themselves as being more involved in their work after the change than before (8). The change group, however, expressed a greater shift in attitude toward the potential for "acceptance of an offer from another company which offered the same formal responsibilities and rewards" (1). Senior managers

The Distribution of Authority in Formal Organizations (Continued)

did not spend any time in long-range planning. Junior managers, through their work in the interfunctional committees, took over interactions with individuals outside of the center (6b), as well as with the senior scientists who felt that their abilities were no longer fully utilized (5b). Also, the change group reported much less superior-subordinate contact (i.e., senior manager-junior manager and/or senior scientist) (6b) than the non-change group. Through a retrospective measure, the members of the change group perceived themselves as having an increase in autonomy (7, the extent to which a person felt that he could exercise control over the manner in which he carried out his work). Junior scientists, however, perceived only about one-half as much increase as did the other members of the change group (senior scientists, junior managers, and senior managers). On the other hand, the junior scientists, along with the senior managers, perceived an increase in the autonomy of their superiors after the change (7). Junior managers and senior scientists, on the contrary, perceived their supervisor, the senior manager, as having experienced a loss of autonomy (7) due to the change.

The changes resulted in an increase in professional authority for scientists (7), especially among the senior scientists, who felt that they had more influence (7) as well as the opportunity to utilize their skills more fully (5b). This finding is supported by the fact that the scientists, to a much greater extent than the managers, wanted further changes in the future.

As far as accepting similar work elsewhere (1), the scientists showed a much greater propensity to leave than the managers. The junior scientists, who had expected the change to allow them the opportunity to have some influence (7) on the system, expressed the least involvement (8), since their expectations remained unfulfilled to the greatest degree.

Ekvall, Göran. Creativity at the Place of Work. Stockholm: The Swedish Council for Personnel Administration, 1971. 219 pp.

Projective tests and questionnaires were used in a study of 138 male blue collar industrial workers employed in 16 companies operating in the mechanical industry in Sweden.

Workers in the sample were distinguished as follows: "big" suggestors (individuals who posed at least one suggestion that received a "high" reward; namely, a mean of approximately 2,500 Swedish crowns); "ordinary" suggestors (individuals who posed at least one suggestion that received an "average" reward, a mean of approximately 350 Swedish crowns; "non" suggestors (individuals who did not pose any suggestions); "professional" suggestors (individuals who posed at least 10 suggestions); "one-time" suggestors (individuals who posed a suggestion only once).

The following associations were revealed in the study. Generally, age and tenure were not associated with the number of suggestions an individual posed (5b). Also, being on the time clock was associated with being a "professional" suggestor (5b). More specifically, high scores on the Technical Interest Scale (10b, leisure activities of a technical nature, constructing things, etc.) was associated with being a suggestor (5b). "Big" suggestors (5b), however, did not show significantly higher means on the Technical Interest Scale (10) than "ordinary" suggestors. Also, the suggestor groups (5b) did show significantly lower means than the non-suggestors on the Passive Leisure Time Activities Scale (10a, watching T.V., going shopping, etc.).

On the Active Leisure Time Activities Scale (10b, poem writing, handicrafts, gardening, etc.), the "ordinary" suggestors (5b) did show a significantly higher score than the "non" suggestors, but the "big" suggestors (5b) did not show a significantly higher score than the "non" suggestors.

The split-half coefficients were .54 for the passive scales and .51 for the active scales. Further tests among the three categories (big, ordinary, and non-suggestors) used individual t-tests, not one-way ANOVA.

Self-confidence, as measured by the Gardell and Westlander III Index (4, self-appreciation; self-value) did not significantly differentiate between suggestors and non-suggestors (5b).

Scores on the GW III index (6) were as follows: "need for development" did significantly differentiate between "big" suggestors (5b) and "non" suggestors, but not between "ordinary" suggestors and "non" suggestors (5b). Also, scores on the GW III index (6) "need for development" (5), did not significantly differentiate between "professional" suggestors and "one-time" suggestors (5b).

Creativity at the Place of Work
(Continued)

There was no significant difference in short-term absenteeism (1, the number of absence occasions of a duration of one day during 1968) among "big" suggestors, "ordinary" suggestors, and "non" suggestors (5b).

Being a suggestor, either "big" or "ordinary," resulted in significantly higher earnings (3) than being a "non" suggestor. However, there was no significant difference in earnings (3) between the "professional" and "one-time" suggestor groups.

5013

Emery, F. E., and Thorsrud, Einar. Form and Content in Industrial Democracy. London: Tavistock Publications, 1967. 116 pp. (Distributed in the United States by Barnes and Noble, Inc.)

This study of four partially or wholly state-owned companies in Norway was undertaken to determine the effects of workers' participation as members of the board of directors. Thirty workers who either presently or previously served as members of the board of directors were interviewed.

It was found that an inherent dilemma existed. Workers who became members of the board of directors soon found out that the board did not resolve issues that were pertinent to the workers needs and instead concentrated its efforts on economic considerations pertinent to the company. Workers who came to the board hoping to explain some of the problems of their fellow workers soon discovered that they were not in an appropriate forum (8).

An appendix to the main study summarizes the findings of an investigation undertaken in 1962 by Harriet Holter for the Institute for Social Research. The questionnaire study was carried out among 1,128 workers and staff members of lower rank; it covered 17 enterprises in the Oslo area. Ten of the enterprises are manufacturing companies with 100 to 400 employees, six are large insurance companies, and one is a large manufacturing company.

It was found that the majority of employees in the sample desired to be more involved in participation regarding their workplace and decisions regarding the company as a whole (7). The overwhelming majority of these employees felt that they would be able to perform more difficult work than they were presently doing (5b).

Faunce, W.A. Problems of an Industrial Society. New York: McGraw-Hill Book Company, 1968. 189 pp.

The main theme of this book is a sociological discussion of the effects of the industrial revolution upon contemporary society, substantiated in many instances by research findings.

Some studies cited in the article have shown that increasing automation is associated with increasing functional job specialization and greater isolation and alienation of the workers (1); other studies have shown the opposite to be true. In general, the industrial revolution was associated with replacing skilled, tool-using artisans with semi-skilled machine operators. In the long run, the effects of automation upon unemployment cannot be resolved; however, automation is associated with workers being transferred to positions of underemployment, where they are not able to utilize their existing skills in type or degree (5b). Also, automation is associated with a greater proportion of unemployment associated with teenage high-school drop-outs and minority racial affiliation. Similarly, automation is associated with an overall increase in leisure time (10). A study performed in the automobile industry in 1957 showed that three-fourths of the workers preferred a shorter work week to extra salary or more vacation time (10).

People in high status occupations view work as an important activity (5, have a sense of accomplishment on the job; 8, take an interest in a particular task area), compared to people in low-status occupations. Looking at the results of specifically related studies, Faunce enhances this position. He notes that Chinoy reported that, to automobile workers, success in life means the achievement of primarily non-work-related goals (10). Hyman cites evidence that there is less working-class than middle- or upper-class concern with occupational success. Riesman and Bloomberg suggest that members of the working class whose jobs are not distinguishable in terms of a clearly-specified prestige hierarchy seek leisure activities in which status comparisons are possible (10). Blum, in a study of packing-house workers, found similar relationships: in their jobs, the absence of meaningful qualitative distinctions in work-role performance was associated with the workers' quest for self-expression in leisure activities (10). On the other hand, Orzack found that, among nurses, four out of five regarded work and the work place as a "central life interest" (8). Similarly, Lyman indicated that blue-collar workers most often see work as a means to provide income (3), whereas white-collar workers value intrinsic aspects of the job and the opportunities it provides for self-expression (5). Finally, Wilensky, in a study of 1,156 employed men in Detroit, found that more than three times as many of those who were from a low socioeconomic level as those who were from a high socioeconomic level were "indifferent" to work. Indifference, in this study, meant specifically that work was unrelated to major attributes of self-image (4).

Problems of an Industrial Society
(Continued)

The book also shows that being a professional, highly-skilled trade worker or a farmer was positively associated with a high level of work commitment (8). Arthur Kornhauser showed that the skill level of a job is positively associated with the degree of mental health (2) attained by the individual who performs the task. Additional studies showed that industrial workers in low-status occupations rarely get together with their co-workers off the job (10). Finally, Blauner, as well as Mann and Hoffman, both showed that automation is positively associated with greater work commitment (8) on the part of the workers.

Flanders, Allan; Pomeranz, Ruth; and Woodward, Joan. Experiment in Industrial Democracy. London: Faber & Faber, 1968. 261 pp.

Using survey questionnaires and interviews, researchers analyzed the attitudes and behavior of 468 rank-and-file employees and 13 top management partners in the John Lewis Partnership in England. The partnership had developed during the last 50 years toward an industrially democratic institution. All of the respondents worked in the company's eight largest department stores, in either the London or Newcastle areas, all of which are fairly large, highly successful operations. Two-thirds of all of the rank-and-file partners are female, and all of the top management partners are college-educated males. The industrial democracy is mostly operationalized through three organizational bodies. The Committee for Communication has a wholly elected membership, with the exception of the chairmen. There are 45 committees, and both representatives and constituents must be members of the rank and file. The Central Council is the partnerships' principle elective body, an assembly of about 140 members. It comprises representatives elected by the entire partnership in branch constituencies, plus a fairly substantial "ex-officio" component, appointed by the chairmen and including all of the most senior members of the central management. Under the constitution, the chairmen have the power to appoint up to one-third of the members as a means of making technical information and expertise available, but in practice the appointed element amounts to just under one-fourth. At the time of the study there were also 26 branch councils in existence, which were considerably less managerial in their makeup than the Central Council. Taking all branches together, the proportion of "ex-officio" council members was lower than in the Central Council ; about one-half of the elected Branch Council members are rank-and-file partners, as opposed to only about 12 percent of members in the Central Council. Branch Councils are modeled upon the Central Council and subordinate to it. The relationship between them is laid down in the rules and regulations of the partnerships.

For employees with no special status or responsibilities, among men with longer service (five or more years) and therefore longer exposure to industrial democracy, high interest in the industrial democracy setting (8) increased from 35.3 percent to 47 percent. Among women with longer service (five or more years) as compared to those with shorter service (one to five years), high interest in the industrial democracy setting (8) increased from 26.2 percent to 55.8 percent.

Experiment in Industrial Democracy
(Continued)

Department size affected feelings of interpersonal "belongingness," with small department size associated with highest feelings of interpersonal relations (6b). In large departments with specialized selling and ancillary functions, members of the ancillary function teams showed far less identification with the store itself (8). For selling partners (all employees are referred to as partners), their departments are the main focus of interest and loyalty (8), taking precedence over the branch and the partnership as a whole.

A greater percentage of the men who were high in interest in the industrial democracy setting (8), as compared to the women, were satisfied with the information provided them by their departmental "chronicle," concerning trading results and general progress of the firm. However, none of the employees were satisfied with the publishing of the sales-rank-order by individual names, since it caused ill feelings and jealousy (6b; 4).

One-third of the employees were not satisfied with the extent to which their immediate supervisors consulted the staff on main policy decisions (7).

Earnings (3) in partnership stores as compared to average for other similar stores with 100 or more employees were considerably higher for all age and sex groups. This was so even without the partnership bonus (3). It should be noted, however, that on the average the partnership employees worked one to two extra hours per week. Even so, only 51 percent of the men and 66 percent of the women stated that they were satisfied with the pay (3). The greater satisfaction with pay (3) of the women is related to the fact that >50 percent were single and did not view their positions as being those of family providers. On the other hand, 71 percent of the men and 76 percent of the women expressed satisfaction with the partnerships' profit-sharing bonus scheme (3). People who needed cash immediately, however, were the least satisfied (3), since the profit-sharing is originally distributed in shares, which must be traded in for cash. The overwhelming majority (82 percent of the men and 93 percent of the women) felt satisfied that their jobs in the partnership were secure (3).

The leisure-time facilities and living accommodations for live-in employees were so upgraded by the Central Council that the participation in out-of-hours social life at the store (10) was much greater than at comparable local establishments. As years of service and interest in industrial democracy increased, the desire to retain the participative bodies (i.e., committees for communication, branch councils, and central council) increased (7).

Experiment in Industrial Democracy
(Continued)

The Central Council, however, did not insure the majority rule. On the issue of rewarding 15 years' seniority with 3 extra days off each year, approximately 82 percent of the partners interviewed were in favor, but the Central Council rejected the proposal by a vote of 88 to 15 (7).

The top-level managers were associated with a greater degree of involvement (8) in the partnership than the rank-and-file members. In relation to industry and commerce in general, however, the relation was very high.

Due to the ideology and the rules and regulations of the partnership, management behavior tended to be stable, consistent, and circumscribed over a long period of time, removing an element of self-discretion (7). Also, the value structure implied by the ideology of democratic management imposes specific limitations on the acquisition and exercise of personal power (7). This structured behavior (7) and restrictions on "power plays" (7) resulted in greater informal managerial-level control (7) and more branch autonomy (7).

The decentralization shortened communication networks and brought people into close proximity with those whom they regard~~s~~ed as controlling their organizational fate and economic rewards (6b). It also resulted in the heads of branches feeling that their jobs more challenging (5).

The creeds of sharing gains and knowledge, along with a democratic managerial style that entailed accountability both up and down the hierarchy, sometimes was associated with jealousy as a strain in the social system (6b). Still, both managers and rank-and-file employees felt that ability was associated with promotion (9). Also, since managers were seen as the most able, a majority of them were elected to the participative councils (7).

The diverse increased-leisure scheme allowed a partner to either work and get additional pay (3) or to take additional time off (10). It was generally possible to change from one to the other (7). Once the five-day work week became operative, those partners who had previously taken work and pay as opposed to leisure under the increased leisure plan were faced with a decrease in gross earnings (3). However, being in a partnership, they attempted to work out the best possible scheme to avoid a decrease in gross earnings (3).

Through the debate over the work week, pay, etc., it became noticeable that the institutions of the partnership, although they discouraged autocratic behavior on the part of the management, might in themselves create a barrier to the involvement of rank-and-file partners and their representatives in the making of policy decisions (7).

Ford, Robert, N. Motivation through the Work Itself. New York: American Management Association, 1969. 267 pp.

Job enrichment programs were studied in six departments of 10 companies that are members of the Bell System. The information was gathered using a questionnaire and company records. Findings were based on a comparison between "achievement" groups, which underwent job changes, and control groups. The six different departments were treasury, commercial, plant, comptroller, traffic, and engineering. All of the workers whose jobs were enriched were non-supervisory personnel.

In the treasury department, seven basic changes comprised the vertical loading job enrichment program. The changes were introduced quietly at a rate of one per week, so that the first-line supervisors and workers were not aware that a special research study had been underway. The changes were determined by third- and fourth-line supervisors, and the second-line supervisor were only told of the study out of necessity. The job changes were associated with less turnover (1) and fewer long-duration and incidental absences (1). The job changes were also associated with an increased number of promotions (9) among the correspondents. Through supervisory observations, the job changes were associated with the achieving group's feeling pressure from within -- a deep feeling of responsibility -- to get the work out quickly and correctly (8). The job changes were also associated with a decrease in "personnel problems" (1) and the development of group enthusiasm toward work problems (8). The employees accepted the responsibility of the "communications" and did the job completely on their own (7).

Utilizing questionnaire data, the job changes were also found to be associated with the employees perceiving more opportunity for advancement than before (9) as well as more things to be learned (5a), and with more time being spent working out solutions to problems (5b). Many of the workers, however, still felt that the company controlled things too much (7).

In the plant department, a study was conducted on the effects of vertical loading on the jobs of the frame cross-connection workers. The job changes resulted in lower absenteeism, tardiness, turnover, and grievances (1). The employees felt that their abilities were being utilized (5b), making their jobs more interesting and giving them a greater sense of accomplishment (4). Also, their increased desire to learn generated pressures to be given the opportunity to learn (5a). The job changes also resulted in the supervisors feeling that they could manage the entire job instead of giving detailed direction to each of their subordinates (7).

In the commercial department, studies were conducted with similar types of job changes in the service representative tasks. These job changes were associated with less turnover (1) and an increase in the employee's active participation in decision-making (7).

Motivation through the Work Itself

Similar job changes were implemented in the comptroller's department. Among the service-order re-entry clerks, the job changes were associated with problems being worked out by the clerks (5b) and with the employees thriving on responsibility (7). Among service-order transcription clerks, the job changes resulted in lower turnover (1). Among keypunch operators, the job changes resulted in lower turnover and absentee rates (1).

In the traffic department, similar job changes among the toll operators and overseas toll operators resulted in a lower turnover rate (1).

In the engineering department, the key job change was to give each engineer a modular assignment in order to establish accountability (7). This job change resulted in engineers feeling that their jobs were their own and that the jobs were responsible (7); also, self-esteem (4) was apparent in their responses.

Foulkes, Fred, F. Creating More Meaningful Work. U.S.A.: American Management Association, Inc., 1969. 222 pp.

Procedures for creating more meaningful work were examined in four organizations: three corporations and a family-owned company.

In the Polaroid Corporation, a job rotation program was initiated by the corporate president. The job rotation program gave employees the opportunity to learn new skills (5a) and to work 50 percent of the time on more challenging jobs. The rotation program evolved into a job exposure program that enabled production workers to experience laboratory jobs (5a) on a full-time basis before deciding whether they wanted a career change. The job rotation and job exposure programs were associated with low turnover and absenteeism (1), promotion from within (9), and increased earnings on the part of the participants (3). Experiencing laboratory technician work was associated with a change in perceptions regarding status (4) among many production workers. (It should be noted that only job assignments and not the jobs themselves were changed in this case.)

At Texas Instruments, Incorporated, an experiment involving vertical job enlargement included changing the jobs themselves. The nonmanagement employees in this instance had a real role in planning, organizing, and controlling their work. This job change, which included setting standards, the design of the work layout, inspection and testing, and the traditional "do" process, resulted in lowered absenteeism (1), turnover (1), employee grievances (1), and trips to the health center (2). The job changes were also associated with increased learning (5a), decision-making (7), and involvement on the part of the participants (8). The job change, with its resultant change in areas of jurisdiction, was associated with strained relations on the part of some managers (6b).

At American Telephone and Telegraph, a job improvement program was studied. The program was implemented in the customer service department, which consisted of 120 females who answered shareholder inquiries by letter or telephone. The job improvement program was based on vertical job loading, intended to increase the challenge of the job. The changes, decided upon by middle management, consisted of the work group deciding job assignment, including subject-matter experts; the women signed their own correspondence; increasing the women's accountability for their own work by reducing verification from 100 percent to 10 percent; reduction of emphasis on production; the women being given total responsibility for the quality of the letters; and the women being given the authority to ignore previously-used form letters whenever they felt the situation demanded it. These job changes were associated with significantly improved feelings toward one's task (8), improved feelings regarding opportunity for achievement (5), improved recognition for accomplishment (4), increased

Creating More Meaningful Work
(Continued)

responsibility (7); and improved opportunity for growth and advancement (9). The job changes were also associated with decreased absenteeism (1) and labor turnover (1) and with an increase in the actual number of promotions (9). In similar re-design programs, men began to engage in "shop talk" during their leisure hours (10). In some instances, however, the job improvement program was associated with management resistance (1).

At H.P. Hood and Sons, Incorporated, a work simplification program resulted in increased feeling of "belonging" (8), sense that people were interested in the individual and his ideas (4), and attendance at an outside event involving workmates (10). Guaranteed job security for anyone with two years' seniority or more was associated with a reduction in resistance to change on the part of the employees (8). Also, introducing a mechanical conveyor into the truck-loading process increased the status of the truck drivers (4).

Goldthorpe, John H.; Lockwood, David; Bechhofer, Frank; and Platt, Jennifer. The Affluent Worker: Industrial Attitudes and Behaviour. Cambridge, England: Cambridge University Press, 1968. 206 pp.

Blue collar workers employed in three manufacturing firms in Luton, England were subjects of a study testing the theory that as manual workers achieve relatively high incomes and living standards, they become more "middle class" in attitudes and behavior. This report, the first from a larger study, focuses on the effects of affluence on the worker's views toward his job. Personal interviews were conducted at work (and later at home with both workers and wives) with 229 male workers in five occupations at three skill levels (highly skilled, relatively skilled, and semiskilled) employed at Vauxhall Motors Ltd., the Skefko Ball Bearing Company Ltd., and Laporte Chemicals Ltd. All workers were residents of Luton, aged between 21 and 46, married, and earning at least 17 pounds per week. A comparison sample was also interviewed, consisting of 54 non-managerial white collar workers at Skefko and Laporte, also aged 21 to 46 and married but not necessarily resident in Luton or earning a specified minimum salary.

Affluent workers (3, blue collar workers with relatively high incomes and living standards) were found to have an "instrumental" attitude toward their work (1): a self-definition of the work situation characterized by seeing work as an instrument for accomplishing ends outside of work, separate from social and family life; by viewing their jobs as the area of life with the least opportunity for self-realization (5); and by stating that the prime reason for remaining at a present job was pay (3). Affluent workers (3) with instrumental orientation toward work (1) chose jobs for economic reasons (3) and not as a setting for satisfying their affective or expressive needs (5), as a result of which they generally did not seek rewarding primary social relationships among workmates, enter into solidary work groups (6b), or engage in social activities with workmates outside of work (10c; 11). In contrast, the white collar workers were more likely to associate in social activities outside of work with the few workmates they considered friends (10c) and also were more likely to entertain fellow workers and their spouses at home (11).

Among affluent workers (3), the instrumental orientation (1) was found to extend across occupational divisions that reflect skill and status, despite the contrasting technological environments of the several occupations.

The Affluent Worker: Industrial Attitudes and Behaviour (Continued)

The instrumental attitude (1) of the affluent workers (3) was connected with feeling satisfied with their firms as employers (8) and favoring cooperation between workers and management (8), based on seeing the firm's interests as agreeing with their own interest in high pay and job security (3). Due to their instrumentalism (1), affluent workers' attitudes toward job and firm were dissociated, so that lack of job satisfaction due to unrewarding (5) and stressful (2) work roles was not necessarily linked with negative attitudes toward the firm, so long as the firm provided the "instruments" for accomplishing desired objectives outside of work (3, good pay and job security); nor were more rewarding, less stressful jobs necessarily connected with workers feeling attachment to the firm (8). Affluent manual workers (3; 1), much more often than white collar workers, viewed their firms as providing especially attractive employment in their (instrumental) terms (8).

The instrumental attitude (1) among affluent workers was also associated with low participation in union affairs other than shop elections and with a negative attitude (except among the most-skilled, the craftsmen) toward greater worker control and participation in the enterprise (7) as a desirable union objective. "Instrumentalism" (1) was also reflected in affluent workers' contracting out of paying political dues (10c) through the union (only the most-skilled, the craftsmen, knowingly paid the political levy) and in criticizing the strong link between unions and the Labour Party (10c).

Aspirations of instrumental (1) affluent workers concentrated on continuing improvement in standard of living (10a) rather than on any occupational advancement (9) and on rising consumer power (10a) resulting from general wage-level increases rather than from promotions, which were viewed negatively as often as positively because of the increased responsibility (7) without significant pay increase and were considered improbable in light of organizational structure. More skilled workers, however, were more likely to favor the idea of becoming a foreman (9) than were less skilled workers, but the highest rate of favorable attitudes to promotion (9) was among white collar workers, who also rated their promotion chances much higher than did any occupational group among affluent workers (1; 3). Affluent workers (1; 3) were more ambitious than white collar workers toward self-employment, the main attraction being independence and autonomy (7), but they had little expectation the ambition could be fulfilled.

The Affluent Worker: Industrial Attitudes and Behaviour (Continued)

Investigation into the ways in which instrumentalism (1) is socially sustained and generated among affluent workers (3) indicated that instrumentalism (1) is related to having a work history with little unemployment, to considering one's job secure (3), to being married and in a younger (21-46) age group, to geographic mobility, and to intergenerational downward mobility (in relation to father's occupation), especially if combined with downward mobility relative to siblings or the worker's own job history. Geographic mobility and living in a town of migrants (Luton) mitigated against involvement in tightly knit social networks based on kinship or locality (11; 10c) and encouraged a style of life centered on home and conjugal family (11) -- characteristic of affluent workers -- which resulted in familial role requirements taking priority over those stemming from membership in work-based groups (6b) and in devaluation of all but economic aspects of work (3). Downward mobility was related to instrumentalism (1) in that it was associated with feelings of "relative deprivation" (4), which motivated affluent workers to seek a standard of living comparable to that of the reference group, and also in that it placed the affluent worker in a situation of status incongruity (4) in which his income was sufficient to attain white collar living standards and his familial affiliations were often white collar but his status was lower in occupational terms. Downward mobility and status incongruity (4), in turn, reinforced the emphasis on familial roles (11) over those connected with workmates and work place (6b), because they tended to make the domestic milieu the one in which the advantageous aspects of the affluent worker's situation are most apparent, the reverse being true at work.

Goldthorpe, John H.; Lockwood, David; Bechhofer, Frank; and Platt, Jennifer. The Affluent Worker: Political Attitudes and Behaviour. Cambridge, England: Cambridge University Press, 1968. 95 pp.

Blue collar workers employed in three manufacturing firms in Luton, England were subjects of a study testing the theory that as manual workers achieve relatively high incomes and standards of living, they become more "middle class" in attitudes and behavior ("embourgeoisement"). This report, the second from a larger study, focuses on the effects of affluence on the worker's political attitudes and behavior. Personal interviews were conducted at work (and later at home with both the workers and their wives) with 229 male workers in five occupations at three skill levels (highly skilled, relatively skilled, and semiskilled), employed at Vauxhall Motors Ltd., the Skefko Ball Bearing Company Ltd., and Laporte Chemicals Ltd. All workers were residents of Luton, aged between 21 and 46, married, and earning at least 17 pounds per week. A comparison sample was also interviewed, consisting of 54 non-managerial white collar workers at Skefko and Laporte, aged 21-46 and married, but not necessarily residents of Luton or earning a specified minimum salary.

Affluent manual workers (3) are decidedly "left-wing" in their political loyalties (10c): approximately 80 percent voted (1955 and 1959) as well as expected to vote (1963-1964) for the Labor Party. By contrast, white collar workers, as might be expected, voted and were predominantly committed to the Conservative and Liberal Parties (10c). However, the Labor vote of the nonmanual sample was markedly greater than the Conservative vote of the manual sample; the nonmanual workers form a much less coherent political entity than do the affluent manual workers. A national survey of manual workers in the same age group showed 67 percent supportive of the Labor Party. Furthermore, of the sample of affluent manual workers (3), 68 percent had never voted for any party other than the Labor Party (10c) and 62 percent had voted Labor on every occasion they had to vote (10c).

The affluent manual workers (3) expressed loyalty to the Labor Party due to its ability to increase living standards (11) and improve social services in comparison to the other parties, as well as to increase "economic payoffs" (3) for the ordinary working man. This attitude is identified by the author as "instrumental collectivism."

Among affluent manual workers (3), Labor Party affiliation (10c) was considered separate from trade union membership, as only 52 percent approved trade union support for the Labor Party.

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The Affluent Worker: Political Attitudes and Behaviour (Continued)

Among the affluent manual workers (3) there was a slight relationship between high earnings (3)--18 pounds take-home pay per week or more--coupled with home ownership (11) and reduced allegiance to the Labor Party (10c). Even this extreme "affluent" group, however, registered a high Labor vote relative to manual workers in the country at large. On the other hand, among the same affluent manual workers (3), differences in family income (3), geographical mobility (those migrant to Luton as opposed to those born in the area), and subjective estimates of changes in standard of living (10) over the last ten years were not associated with changes in party allegiance (10c).

Further, for affluent manual workers (3), as the amount of "white collar affiliation" increased (i.e., either a male in-law holds a white collar position or else the husband or spouse presently holds or in the past held a white collar position), the degree of Labor Party support decreased (10c). This relationship holds even when age, family income, home ownership, and area of residence are controlled for.

Among the affluent manual laborers (3) there was a definite relationship between being a trade union member and voting Labor (10c). Also, for workers who first joined the union on this job, length of union membership is associated with degree of Labor Party affiliation (10c). For workers who were union members prior to joining the firm, there was a remarkably high rate of voting for the Labor Party (10c), irrespective of both age and job tenure. Among the affluent manual workers (3), no relevant association was found between white collar affiliation and union membership. Controlling for union affiliation prior to and during the present job, there was still a negative association between the amount of "white collar affiliation" and voting for the Labor Party (10c). However, trade unionists with high white collar affiliation were associated with Labor Party support (10c) to a greater extent than non-trade unionists with the same degree of affiliation. Both unionists and non-unionists among nonaffiliates were strong Labor supporters (10c).

Guest, R.H. Organizational Change: The Effect Of Successful Leadership. Illinois: The Dorsey Press, Inc., and Richard D. Irwin, Inc., 1962. 180 pp.

This book reports a naturalistic field observation relying primarily on the inductive approach. The study takes place in plant Y, an automobile assembly plant, which undergoes a change in its top-line manager. The effects of this change are measured over three years. The incumbents of offices in direct line of authority above the plant level, the supporting plant supervisory personnel, the formal organization structure, the technological conditions and layout, and the environmental market conditions all remained unchanged during the test period.

Prior to the change of managers, the supervisory style of communication in line with obedience to orders, enforcement of rules, the threat of punishments, and failure to listen was associated with strained social relations (6b) among all levels of the hierarchy, both upward and downward, as perceived by the plant manager, the superintendents, the general foremen, and the regular foremen. Also, the explicit separation of the production function from the support functions of material controlling and inspection, along with the lack of supportive communication between the heads of those functions and the total lack of communication between the lower-level workers of those interdependant functions, was associated with strained social relations (6b) as well as feelings of inadequacy (4) and lack of control (7) over one's work situation. All of these conditions were manifested in the fact that plant Y was in the lowest quarter of all the corporation's 126 plants in regard to its safety record (2) and was extremely high in labor grievances, absenteeism and labor turnover (1).

In 1953, when the new plant manager replaced the old in plant Y, the new manager asked his subordinates for help and encouraged their initiative in regard to recommendations (7). He also expressed serious concern for his subordinates as people (6b). These changes in supervisory style were seen by the subordinates as aiding in the development of healthy social relations (6b) and feelings of teamwork (8). The new supervisor also developed regularly-scheduled inter-departmental meetings, in which participation (7) was encouraged. This further enhanced the feelings of teamwork (8) among the subordinates. Personnel were also shifted to different departments without a promotion or demotion being involved, which resulted in their attainment of additional knowledge (5a), which, in turn, developed empathy among the subordinates, resulting in much better social as well as task-related interaction (6b).

Improvement in the physical plant environment (6a), as well as in the technical process,resulted in better social and task-related interaction (6b).

Organizational Change: The Effect Of Successful Leadership (Continued)

In 1956, after interpersonal relations within the plant had undergone a three-year change in supervisory style, these relationships were measured again. The change in supervisory style to one which emphasized the lack of threat, listening on the part of the plant manager, and a sincere concern for the individuals involved (6b) was associated with congenial social relations (6b), feelings that competence would lead to promotion (9), and an increase in the flow of upward communication, especially communication concerned with future planning (7), among all levels of the hierarchy. Superiors also placed much more trust in their subordinates' abilities; in turn, the subordinates developed much more responsibility (7). These changes in supervisory style were also associated with improved peer relations, manifested in the sharing of information, both formally and informally (6b).

Mutual interaction and planned participative meetings (7) between the supervisor and managers of the production function and their counterparts in the support functions of material control, inspection work standards, maintenance, and accounting were associated with feelings of improved social relations (6b) as well as increased mutual understanding of the problem areas (5a) and the ability to jointly find solutions (5b;7). In general, the changes in supervisory style were associated with an increase in horizontal and upward communication (7), with feelings of improved social relations (6b) among the supervisors and managers, and with the feeling of confidence (4) in being able to handle the situations that arose within the plant. All of these changes and their concomitant interactions and behaviors were associated with plant Y achieving the fourth best ranking among 126 plants in the entire corporation in regard to safety performance (2), as well as with a tremendous improvement in the areas of labor grievances, absenteeism, and labor turnover (1).

Haire, Mason; Ghiselli, Edwin E.; and Porter, Lyman W. Managerial Thinking: An International Study. New York: John Wiley and Sons, 1966. 298 pp.

Managerial thinking from a cross-sectional analysis of 14 countries was analyzed. The Nordic-European countries were Denmark, Germany, Norway, and Sweden; Latin-European countries were Belgium, France, Italy, and Spain; Anglo-American countries were England and the United States; developing countries included Chile, Argentina, and India. Finally, Japan was analyzed. In total, 3,641 managers completed questionnaires.

Managers in all 14 countries were found to feel that the average worker has a very low capacity for leadership and initiative (7). Nonetheless, the representative sample from all of the countries felt that a participative, internally-controlled leadership style with a sharing of information and objectives (7; 6b) is more effective than traditional directive methods.

Overall, "to direct" (7, a rather unilateral type of command to subordinates, backed up by the formal authority of the superior) was viewed far more positively by most managers than "to persuade" (7, an approach involving consideration of the subordinates' ideas, desires, and attitudes). Specifically, "to direct" (7) was associated with the qualities of prestige (4) and the concepts of "to decide" (5b) and "to cooperate" (6b; 7). On the other hand, "to persuade" (7) was associated with the negative action of reprimanding the subordinates (6b).

Managers in the Nordic-European countries (Norway, Sweden, and Denmark in general, and Germany in particular), saw the largest differences in the meanings of "to direct" (7) versus "to persuade" (7). For these managers, "to direct" was associated more with prestige (4) and creating (5) than was persuading. There was also considerable difference between "to direct" and "to persuade" (7) among the managers from India and Chile. Among the managers from the rest of the countries, although there was a difference between "to direct" and "to persuade" (7), the difference was modest.

There was remarkable similarity in the findings from country to country in regard to hierarchical status differences (4). The higher positions (i.e., factory manager, colonel, and bishop) were associated to a greater degree with prestige (4) and with the concepts of "to decide" (5b), "to create" (5), "to direct" (7) and "to cooperate" (6b; 7) than were the lower positions (i.e., factory foreman, sergeant, and priest).

Managerial Thinking: An International Study
(Continued)

For the sample of managers as a whole, the need for security (3) was perceived as being "high" in fulfillment, "medium-high" in satisfaction, and "high" in importance. The social need (6b) was perceived as being "low" in fulfillment, "medium-high" in satisfaction, and "low" in importance. The esteem need (4) was perceived as being "medium" in fulfillment, "medium-high" in satisfaction, and "low" in importance. The autonomy need (7) was perceived as being "medium" in fulfillment, "low" in satisfaction, and "high" in importance. The self-actualization need (5) was perceived as being "medium" in fulfillment, "very low" in satisfaction, and "high" in importance.

The differences in attitudes toward these needs among the clusters of countries were as follows. Managers from the Nordic-European countries perceived their need fulfillment (3; 6b; 4; 7; 5) as "high," need satisfaction as "high," need importance as "low." Managers from the Latin-European countries perceived their need fulfillment (3; 6b; 4; 7; 5) as "low," need satisfaction as "low," and need importance as "medium." Managers from the developing countries perceived their need fulfillment (3; 6b; 4; 7; 5) as "medium," need satisfaction as "very low," and need importance as "high." Managers from Japan perceived their need fulfillment (3; 6b; 4; 7; 5) as "high," need satisfaction as "medium-high," and need importance as "medium-high." Managers from the Anglo-American countries perceived their need fulfillment (3; 6b; 4; 7; 5) as "medium-low," need satisfaction as "medium-high," and need importance as "medium-low." There were changes, however, in their perceptions regarding particular needs. For security (3) and social (6b) needs, perceived fulfillment and satisfaction was "high," whereas for autonomy (7) and self-actualization (5), perceived fulfillment and satisfaction was "relatively low." Low need satisfaction may have been due to low fulfillment, high expectations, or both.

In general, neither the managers' hierarchical level nor the size of the employing company nor age were associated with the attitudes and assumptions underlying management practices (i.e., attitudes in regards to people and/or leadership style) or with cognitive descriptions of the managerial role. Managers from larger-sized firms, however, tended to have more favorable views concerning the use of participation (7). Also, older managers in most countries regarded the concepts of "to direct" (7) and "to persuade" (7) as more similar than did younger managers.

Managerial Thinking: An International Study
(Continued)

The level at which a manager works is associated with perceptions of need fulfillment and satisfaction. The higher-level managers clearly indicated more favorable attitudes (3; 6b; 4; 7; 5). Managers from large-sized companies reported more fulfillment and satisfaction of security needs (3). Managers from small-sized firms were considerably more fulfilled and slightly more satisfied in autonomy needs (7). Older managers reported more fulfillment but more dissatisfaction with their needs (3; 6b; 4; 7; 5).

Herzberg, Frederick; Mausner, Bernard; and Snyderman, Barbara. The Motivation to Work. New York: John Wiley & Sons, Inc., 1959. 157 pp.

Questionnaire data was used to analyze various factors that determined accountants' and engineers' feelings toward their jobs. Next, the effects of their varying feelings were studied, along with the resultant differences in attitudes. Approximately 200 accountants and engineers from various organizations in and around the Pittsburgh area were used as subjects.

The factors of achievement (5), recognition (4), the work itself, responsibility (7), and advancement (9), as recalled from previous work experience, were associated with highly positive feelings toward one's job (8). All of the factors responsible for good feelings about the job (8) related to doing the job itself or to the intrinsic content of the job rather than to the context in which the job was done. The positive feelings about the job (8) stemming from these factors are predominantly lasting rather than temporary in nature. Temporary good feelings about one's job (8) were associated with having experienced achievement (5) and recognition (4) for the specific achievement. Past experience of achievement (5) can stand, independent of past experience of recognition (4), as a source of good feelings about the job (8); the reverse, however, was not true.

The factors of company policy and administration, interpersonal relations with supervisors (6b), interpersonal relations with peers (6b), supervisory technical competence, working conditions, and personal life, as recalled from previous work experience, were associated with highly negative feelings toward one' job (1). All of the factors responsible for negative feelings about one's job (1) were extrinsic to the job itself. Also, most of the negative feelings (1) were of a short time duration.

Another important finding was that, although the intrinsic factors were usually associated with positive feelings toward one's job (8), they were sometimes associated with negative feelings toward one's job (1). On the other hand, the extrinsic factors, which were associated with negative feelings toward one's job (1), almost never acted to increase the positive feelings toward one's job (8). Two of the intrinsic factors, however, did operate almost entirely in the unidirectional path of positive feelings toward one's job (8): these factors were achievement (5) and responsibility (7).

The previous intrinsic factors that led to high points in one's working career were associated with an increased positive attitude toward the company (8), increases in individual self-confidence (4), and improved mental health (2, eating and sleeping better). The previous extrinsic factors that led to low points in one's working career were associated with quitting or thinking about quitting (1), a negative attitude toward the company or toward an individual within the company (usually a supervisor) (8;1), and with a worsening in the state of one's mental health (2, excessive drinking, smoking and/or depression).

Ingham, Geoffrey K. Size of Industrial Organization and Worker Behaviour. Cambridge: The University Press, 1970. 170 pp.

A comparative study was conducted in two large and eight small light-engineering firms in Bradford, England. All but one of the production processes studied were of the unit/small batch type; the tasks analyzed were those of skilled and semi-skilled machinists (turners, millers, borers, and drillers). The total worker sample consisted of 150 male employees (minimum age, 21).

The study showed several correlations between organizational size and absenteeism or turnover. There was a positive correlation between the size of an organization and absentee rates, large size being associated with high absentee rates (1). No correlation was found between organizational size and labor turnover (1). This finding is justified by the author on the grounds that people who work in large organizations are economically motivated and do receive a higher salary than people who do similar work in a smaller firm, whereas the people who work in smaller firms are intrinsically motivated and get a greater opportunity for intrinsic satisfaction than their counterparts in large organizations. The author further hypothesizes that, therefore, each worker experiences congruence between his need satisfactions and their fulfillment, which in turn accounts for the non-distinguishable labor turnover rates.

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Karlsson, Lars Erik, and Söderlund, Jens. *Lägesrapport från Arvikaprojektet*. Stockholm: Företagsdemokratidelegationen Svenska Tobaks AB, 1971. 105 pp.

A development and research project was conducted in 1969-1970 at a tobacco factory in Arvika, Sweden as part of a series of field experiments in increased industrial democracy, initiated by the Swedish Delegation for Industrial Democracy, a section with the Swedish Department of Industry. Of the tobacco factory's 190 employees, the project involved primarily the 30 workers in the tobacco preparing department. Results of the project were evaluated by two survey studies and further validated by unstructured interviews. The first survey encompassed 20 workers in the preparing department who had been employed for the whole experimental period, who were asked to compare the situation at the end of the first year with the situation before. The second survey, conducted simultaneously (at the end of the experiment), encompassed all the workers in the factory and all the workers at another tobacco factory in northern Sweden.

The project involved several changes at the factory. Researchers from the delegation, together with worker representatives, developed a list of measures of organization change, which were later instituted. These changes included selection of a contact man from among the workers to take over some of the foreman's tasks, including information functions and temporary personnel assignment to balance uneven work flow. Also, a department committee was formed, with the foreman as a member. The committee, in cooperation with staff departments of the company, was responsible for the monthly production plan and personnel issues including hiring, instruction programs, discipline, organizational development, technical change, efficiency, and the like. The foreman's role, as a result, became a more advisory one. In addition, job rotation was encouraged, payment by piece-rates was discontinued and replaced by monthly salaries (3), and an instruction program was begun.

As a result of these project-instigated changes in organizational structure, workers perceived increased opportunity to take part in decisions related to one's own tasks and the work of the department (7), more varied work with increased opportunities to learn (5a), increased willingness to help work mates (6b), greater knowledge of work and the department in general (5a), increased worker interest in production (8), better planning, and better worker relations with the foreman (6b). The workers regarded the department as improved on the whole and as a better place to work (8). Physical and mental stress (2), however, increased markedly, which the authors attribute to an increase in production volume, caused party by increased demand for the product, partly by the project itself.

Klein, Stuart M. Workers Under Stress: The Impact of Work Pressure on Group Cohesion. Lexington: The University Press of Kentucky, 1971. 123 pp.

In a study of relationships between threat engendered by work pressure and group cohesion of ongoing industrial groups, data were collected over a two-year period (1961-1962) in six plant locations of one large corporation. The sample of 3,604 blue collar production employees in jobs ranging from semiskilled, highly routine, and repetitive to highly skilled and long-cycle included all blue collar workers in the smaller plants and, in the two largest plants, one-third of the blue collar populations, selected by stratified random sample.

In the first (1961) survey, employees in five plants (150 departments) completed a paper-and-pencil, fixed-alternative questionnaire based on 48 tape-recorded interviews and three pre-test questionnaires, administered previously to randomly selected subjects. The 1962 replication was carried out in another plant location, using an instrument duplicating about 50 percent of items in the 1961 survey and extending it.

In the 1961 study, work pressures had been newly and suddenly introduced in accordance with a new standard of measuring productivity, instituted after consulting industrial engineers compared production pace to that of other organizations doing similar work. Those in the study population who were under the new, severe productivity demands had been under them for varying lengths of time, and some operators were not yet on the new standard; severity of the change itself also varied. The population was therefore broken into groups representing various lengths of time under pressure and various degrees of pressure, for comparisons.

The second (replication) population was similar to the first in being composed of production workers' groups in similar-sized departments, receiving identical company benefits (above-average wages and good benefits typified the company), in being non-union, and in reporting identical amounts of work pressure. The first population, however, was more highly skilled, had had work pressure introduced more abruptly (the second population had a tradition of high work pressure, increasing gradually over the years), and was largely of northern or western origin and "industrially sophisticated" compared to the second, border-state population. Because results of the first study were generally confirmed in the second with the differing population, and because the second study was extended to include a direct measure of effects shown indirectly in the first study, the author concluded that the results can be generalized.

Workers Under Stress: The Impact of Work Pressure on Group Cohesion
(Continued)

High "induced" work pressure (7, high degree of difficulty experienced by members of a group in trying to meet newly introduced workload increases that are externally caused and emanating from environmental cues in behavior of superiors or company directives) was associated with low group cohesive behavior (6b, social-supportive behavior) in both original study and replication. A causal chain was found to exist, in which high work pressure was positively associated with competitive behavior (6b) because the reward structure imposed by management (7) encouraged employees to work as fast as they could individually, which, under high pressure conditions, was perceived as threatening and therefore was associated with intragroup conflict (6b), which, in turn, was negatively associated with cohesive behavior (6b).

The original theoretical proposition of the study -- that work pressure would lead to threat and anxieties associated with threat and to loss of environmental control by the worker (7) -- was confirmed, but the hypothesis that these factors would arouse needs best satisfied by cohesive behavior (and therefore that work pressure would produce cohesive behavior) was disproved. Cohesive behavior (6b) under high pressure occurred only when managers rewarded cooperative behavior, in which case high work pressure was associated with competitive as well as cohesive behavior (6b). This result was interpreted as occurring because managers who reward for cooperative behavior tend to create an environment in which competitive behavior can occur without being threatening, and managers who apply pressure on a group basis bring group goals more in line with individual goals (8), which makes the approach to individual goals through competitive behavior serve common interests, as on an athletic team.

Associated findings were: the highest cohesive behavior (6b) and the least competitive behavior was found in groups with lowest pressure. Lowest cohesive behavior (6b) was found when competitive behavior occurred under conditions of high pressure together with unresponsive management. The more adequate the grievance channels, the more the cohesive behavior and the less the competitive behavior. The more job control workers had (7, influence in deciding the amount of work that should be done and what methods to use), the less the competitive behavior and the more the cohesive behavior, under all pressure conditions from high to low.

Lawrence, Paul R., and Lorsch, Jay W. Organization and Environment: Managing Differentiation and Integration. Boston: Division of Research, Graduate School of Business Administration, Harvard University, 1967. 279 pp.

Interview and questionnaire data from top and middle managers of six plastics companies and from top executives of two standard container companies and two food processing companies were analyzed in this comparative study. All of the companies were privately owned and operated; all used continuous process, post-industrial technology.

The plastics companies operated in the most uncertain environment, causing the most need for company differentiation (6b, the difference in cognitive and emotional orientation among managers in different functional departments). Within the companies, the departments operating under the greatest certainty (production) were associated with high formality of structure (7, smaller spans of control with more levels of managerial hierarchy, as well as 4, constant inspection of the workers' task accomplishments), by comparison with departments operating in less certain environments (research). Also, members of units engaged in highly certain or highly uncertain tasks (i.e., production or research) developed task-oriented interpersonal styles (6b), whereas members of units dealing in moderately uncertain tasks (i.e., sales) would develop relationship-oriented interpersonal styles (6b). Also, the more differentiation that existed between two departments, the greater the difficulty in achieving integration (i.e., the quality of the state of collaboration that exists among departments that are required to achieve unity of effort by the demands of the environment). In the high-performance plastics companies, as compared to the low-performance plastics companies, integrators who empathized with both departments rather than siding with one or the other, integrators who were perceived as having high influence relative to departmental managers (7) as well as having adequate knowledge to deal with the problem, and integrators who used "confrontation" as their mode of conflict resolution, as opposed to "smoothing" or "forcing," were perceived by workers in the various departments as being best able to communicate and to engage in successful conflict resolution (6b).

The standard container companies, in contrast to the plastics companies, operated in the most certain environment, resulting in the least differentiation (6b). As perceived by their managers, these companies required the same amount of integration (6b) as the other two types of companies. In the low-performing

Organization and Environment: Managing Differentiation and Integration

(Continued)

standard container companies, the managers perceived themselves as having the influence (7) but not the knowledge (4) necessary to adequately resolve conflicts and reach decisions. Executives at the top of the hierarchy in the high-performance standard container companies perceived themselves and were perceived by their subordinates as having both the influence (7) and the knowledge (4) to successfully resolve conflicts and to reach appropriate decisions. In these high-performance companies, integrators who used "confrontation" as opposed to "smoothing" or "forcing" were capable of successfully resolving the greatest number of conflicts (6b).

The food companies operated in a fairly uncertain environment and thus were intermediate in their degree of differentiation (6b). As perceived by their managers, however, they required at least as much integration as the other two types of organizations (6b). In the high-performance food processing companies, the managers from the top to the bottom of the managerial hierarchy all perceived themselves as having equal influence (7). In the low-performance companies, only the executives at the top of the managerial hierarchy perceived themselves as having influence (7). Here again, the integrators who used the "confrontation" mode, as opposed to "smoothing" or "forcing," were capable of resolving the most conflict, which resulted in better integration (6b).

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Levi, Lennart. Stress--Sources, Management, and Prevention: Medical and Psychological Aspects of the Stress of Everyday Life. New York: Liveright Publishing Corporation, 1967. 192 pp.

Effects of noise as a stressor during work were measured using 22 young, healthy female IBM punch-card operators in a large insurance company in Sweden. Subjects worked at their usual tasks, in their usual surroundings, but the normal sound of the IBM machines was increased by tape recordings of the same noise so as to double the volume of the noise on successive days during a four-day period for one group and to decrease it for the second group, starting from the highest noise level. Urinalyses were performed during each day.

Contrary to expectations, the subjects reported only minor emotional reactions even during the loudest noise, and physiological changes indicating stress reactions (2) were correspondingly slight.

There was no relationship between volume of noise in decibels and recorded psychological and physiological reactions. It is concluded that the subjects' positive attitude toward the noise, created by cooperative behavior of supervisors (6b) and special payment to subjects (3) modified stress reactions (2) to the noise.

[Abstracted from Chapter 4, pp. 68-88.]

Lupton, Tom. On the Shop Floor. Oxford: Pergamon Press, 1963. 208 pp.

This study was concerned with factors affecting the behavior of industrial workers. It is an analysis of the influence of technological, administrative, and social factors on two groups of workers. The first group was comprised of operatives in a garment assembly workshop. Their production process emphasized task specialization, and each worker was isolated, both geographically and socially. The second group of workers were operatives in an electrical engineering workshop. They also utilized a batch production process, but the workers performed their tasks in self-selected pairs and/or small work groups. Data were gathered by the author during two six-month periods, during which he worked as an operator in each of the workshops.

At Wye Garments (fictitious name), an individual piecework incentive scheme determined earnings. The individual incentive scheme (3) was associated with workers making little effort to organize cooperation (6b). New styles introduced with tight incentive piecing were associated with greater absenteeism (1). The production system itself placed great restraints on social interaction (6b). Its minute subdivision of tasks, along with great differences in the skill and earning capacities of the workers, were associated with lack of control on the part of the workers to affect the imbalance in the work flow, tight prices, and the like (7). The reliance on others to keep the next worker in the line supplied with work was associated with great interpersonal pressures (6b). Also, the requirements of the production process and the need to maintain a rapid and continuous pace to "make a wage" were associated with workers being anchored to their positions in the room (6b;7). The physical layout (6a) was associated with restricted communication (6b).

Market factors that determined the proliferation of garment styles and the length of run on any style influenced earnings (3). The individual piecework incentive scheme was associated with almost no workers helping each other (6b) and no sharing of knowledge during working hours (5a). During breaks, age and length of service were associated with informal social groupings (6b). Belonging to these social groupings (6b) was associated with a sense of identification with the firm (8). Finally, the social groups were associated with low labor turnover (1), despite a high-tension work environment.

. . .

At Jay Electric (fictitious name), the production flow was associated with the work flow in any section being beyond the direct control of the foremen (7) and completely outside the control of the workers (7). Since the work was arranged so that a complete and fairly lengthy task was performed by a pair of workers, however, there were few difficulties in the way of cooperation between workers (6b). The requirements of the process of assembling transformers, together with the inevitable breaks in the work flow, were associated with

On the Shop Floor
(Continued)

a good deal of personal interaction (6b). The production process was associated with a good deal of personal freedom for the workers to chose with whom they would work or whether they would work alone (6b;7). Also, the work was quite varied and did not call for the repetitive production of small parts. All of these conditions related to the production process were associated with the development of friendly groupings on and off the job (6b;10) and with the spread and exchange of knowledge (5a) among the whole group of workers in a section. The ability to chose work partners (7;6b) was associated with informal groups being the same as work-role groups (6b).

The Jay Electric company based its incentive scheme on the "time saved on negotiated time allowances," a type of incentive agreement that was associated with making every worker a participant in the payment decision process (3;7). Finally, being a good shop floor worker was perceived by the workers as being negatively associated with the opportunity for promotion (9).

Mann, F.C., and Hoffman, R.L. Automation and the Worker. New York: Henry Holt and Company, 1960. 272 pp.

This book describes an investigation of the social and psychological effects of a new form of technology -- automation -- upon the working force in two power plants in the same company. Information regarding the attitudes and opinions of the men who worked in the power plants was collected by means of a series of questionnaires. One of the plants (Stand) operated in the traditional manner; the other, new plant (Advance) used a more totally automated technology. In interpreting the results, it should be kept in mind that the workers in Advance were a non-random sample, since they were volunteers.

The economics of the automated plant resulted in a centralized maintenance function (7) which was associated with a reduced level of self-esteem (4) among the older, highly-skilled maintenance workers. The automated plant was also associated with reduced operating loads and threats of skill obsolescence in the older plants, which resulted in the perceived threat to the job security (3) of the men working in the older plants. The automated plant was also found to be associated with a reduction in the number of levels of supervision, which resulted in increased satisfaction with the amount of communication from the top of the plant organization to the non-supervisory employees, and a greater sharing of the decision-making power by the top staff of the plant with the foreman and the workers (7). Also, structural changes (the centralization of operating controls) were positively associated with the creation of greater group unity (6b) among the operators in the automated plant. Eighty-five percent of the operators who transferred from the older plants reported that they had much more responsibility (7) in the automated plant. Working in the automated plant was also associated with greater feelings that the job really utilizes the operator's best abilities (5b) and requires the operator to learn new things (5a) and acquire new knowledge and skills on the job (5a;5b). Working in the automated plant was also associated with more physical mobility (7) and more contact with other men (6b) than the operators had had in the older plants. Also, workers in the automated plant were associated with positive acceptance of job rotation (8) as compared to workers in the older plants. Finally, although there was more perceived tension (2) in the automated plant, apparently due to the perceived speed and inadequacy of preparation for the transition from jobs in the older plants, there were also greater feelings of interdependency between the workmen and the foreman in decision-related matters (7). Also, non-supervisory employees in the automated plant were significantly more satisfied with their wages (3) and perceived themselves as having better promotional opportunities (9). Both plants operated on shift schedules, but there were differences in the patterns of the schedules. The shifts at Advance started at 12 midnight, 8 a.m., and 4 p.m.; the work week was seven days long; the rotation occurred weekly;

Automation and the Worker
(Continued)

the men and the supervisors shifted together; and the workers had week-ends off every fourth week. At Stand, the shifts started at 11 p.m., 7 a.m., and 3 p.m.; the work week was five days long; the rotation was monthly; the men and the supervisors rotated individually; and the workers had a week-end off once every twenty-five weeks. In both plants, the shift work was disliked as it resulted in improper sleep, poor appetite, poor digestion (2), and constantly changing living habits (10;11). Shift work was also associated with perceptions of strained family life (11) as well as depriving the worker of extensive friendship relations (10). A worker's attitude toward shift work was not found to be significantly associated with absentee rates (1).

The supervisory structure of decentralized power in the automated plant was significantly associated with the foremen being perceived as high in human relations skills: being considerate of the employee as a person (6b), as well as helping the employee get ahead in the company (9).

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Marrow, Alfred J.; Bowers, David G.; and Seashore, Stanley E.
Management by Participation. New York: Harper and Row,
1967. 264 pp.

Interviews and questionnaires were used to measure the effects on non-supervisory employees of changes following a merger between two companies, the Harwood Manufacturing Corporation and the Weldon Manufacturing Company. Harwood took over Weldon, its leading competitor in pajama manufacturing; at the time of the merger, both companies used similar manufacturing processes in plants approximately 30 years old, and each employed approximately 1,000 people.

Following the merger, differences in leadership styles and managerial systems hampered the fit of the two merged firms; Weldon's techniques curbed organizational competence. Changes were therefore initiated in the Weldon Company and continued over a period of two and one-half years (1962-1964). The effects of these changes were measured in 1962, 1963, and 1964. Harwood was used as the study control; changes in Weldon were modelled after the organizational design of Harwood. Changes were as follows. Assurances were given that the operation would continue and that no changes in personnel were planned. Also, improvements were made in the plant facilities and work system. They included conversion from a plant-wide mixed batch production system to a "unit system" of production, in which smaller product lines are segregated into departments ("units") of a size suitable for easy work-flow control and scheduling; coordinated changes in record systems and in order and delivery schedules; and introduction of some newer machines and work aids and improvement of maintenance services and supplies. Further, a special training program for new operators (5a) was initiated, as well as an individualized "earnings development program" for low-earning operators (3).

Social system changes (6b) included a sensitivity training program for all plant managers and supervisors (5a), designed to change old habits of distrust, secrecy and noncooperation and to develop openness, trust, and active, joint problem-solving (6b; 7). The whole organization, from the plant manager down to the production workers, participated in an exercise in joint problem-solving through participative methods in groups (6b), intended to make such procedures a normal part of the management system (7). A concentrated effort was made to distribute responsibility and influence downward in the organization so that every individual could have some significant part, however small, in the management of his own work and that of those associated with him (5b; 7).

Management by Participation
(Continued)

Social system changes (6b) were followed by associated changes in the managers' perceptions of their work situation. They felt a reduction in tension (2), an improved relationship with both subordinates and peers (6b, greater feelings of teamwork and cooperation), a greater feeling of responsibility (7), and increased understanding and utilization of their abilities (5b).

All of the changes were associated with the following effects on the attitudes, motivations, and satisfactions of the non-supervisory employees of the Weldon Manufacturing Company. Absences from work (daily rate) fell from six percent to the three percent norm of the Harwood Company (1), and mean job tenure increased (8). There were no significant changes, however, in employee attitudes toward the degree to which their jobs afforded the opportunity to use abilities (5b).

Attitudes toward amount of personal work effort expended changed considerably: an increasing proportion of employees felt that they were producing as much or more than the pay rates called for (3) and that they worked very hard or extremely hard (8). Attitudes toward the compensation system became more favorable, especially with respect to the effort to help new employees to achieve a high income (3). Finally, the changes did not result in a significant difference in the non-supervisory employees' attitudes toward their fellow workers (6b), which were generally positive in 1962 before the changes were undertaken.

Maurer, John G. Work Role Involvement of Industrial Supervisors. East Lansing: Bureau of Business and Economic Research, Graduate School of Business Administration, Michigan State University, 1969. 166 pp.

Questionnaire data was gathered from approximately 300 male, bottom-level and medium-level supervisors representing 18 privately-owned manufacturing companies in the State of Michigan. Only those who supervised production, assembly, and/or ancillary activities were included. The average age for both classes of supervisors was 44-45 years; their tenure with present company ranged from less than two to more than 10 years.

The WRIA, an index for measuring work role involvement, was administered. Work involvement was defined as the degree to which an individual's work role is important in itself as well as the extent to which it forms the basis of self-definition, self-evaluation (the extent to which an individual evaluates or ranks himself as a person in terms of his work role) and success definition (the degree to which an individual defines success in terms of work role success).

It was generally found that middle-level supervisors had a higher degree of work role involvement (8) than bottom-level supervisors. It was also found that middle-level supervisors had a greater degree of work role importance (8) than bottom-level supervisors. (The latter result was determined from the WRIB index of work role importance.) Middle-level supervisors experienced less perceived deficiency than bottom-level supervisors in fulfillment of security (3), social (6b) esteem (4), autonomy (7), and self-actualization (5a) needs.

The data tended to support the positive relationship between the degree of work role involvement (8) and the perceived importance of job characteristics related to esteem (4), autonomy (7), and self-actualization (5a) for both classes of supervisors. The association, however, was slight. A very low positive relationship, using parametric tests, was found between the degree of work role involvement (8) and the degree of the perceived existence of each of the job characteristics (4; 7; 5a), for all classes of supervisors. The association was not found when non-parametric tests were used. The degree to which esteem needs (4) were perceived as required was associated with work role involvement (8) for middle-level supervisors only; however, the degree to which the other needs (7; 5a) were perceived as required was not associated with work role involvement (8) for either supervisory class.

Work Role Involvement of Industrial Supervisors (Continued)

There was no association between work role involvement (8) and perceived deficiency of need fulfillment of the job characteristics (4; 7; 5a) for either supervisory class.

Meissner, Martin. Technology and the Worker: Technical Demands and Social Processes in Industry. San Francisco: Chandler Publishing Company, 1969. 264 pp.

Re-analyzing the data from 38 previous studies, the following behavioral adaptations were found to be associated with varying technological constraints:

Technologies found to be associated with simultaneous "required" cooperation (6b, the joint behavior of men who cooperate to produce a joint product) and "permitted" cooperation (6b, cooperation not necessary to fulfill the purpose of the technical system) were those technologies that use a hand transfer method for moving or transporting materials or equipment and either do not carry out conversion of material or accomplish the conversion using hand or machine tools, entailing task dependence with low differentiation of tasks and no work flow. These technical system characteristics were also associated with "reversible" worker influence patterns of a technical nature (7, a behavior change of the first man in a behavior sequence that produces a behavior change on the part of the second man, and vice versa, within a cycle).

Technologies that use hand transfer coupled with either no conversion of material or utilizing hand tools or machine tools to carry out the conversion, entailing no work flow, low task differentiation, and task function independence, are associated with an absence of "required" cooperation (6b) as well as an absence of "permitted" cooperation (6b), so long as the worker is confined to a physical space. If the work space was open, "permitted" cooperation occurred, independent of "required" cooperation (6b). These technological characteristics are also associated with influence patterns of a non-technical nature (7), both semi-technical (non-technical resources influence technical performance) and extratechnical (non-technical resources influence non-technical behavior).

Technologies that use machine tools for the conversion process and a "dead-line" transfer process (dead rolls, connecting benches, hand-pushed rail cars) or technologies that use hand tools for the conversion process and a "live-line" transfer process (overhead conveyors, belts, chains, transfer machines, with continuous movement) and have a workflow with task dependence and high task differentiation are associated with an absence of "required" cooperation (6b) as well as an absence of "permitted" cooperation, as the workers are confined to the work space. These technical system characteristics are also associated with a non-technical influence pattern of a semi-technical nature (7, non-technical resources influence technical performance).

Technology and the Worker. Technical Demands and Social Processes in Industry
(Continued)

Technologies that use hand tools for the conversion process and a "live-line" transfer process and that have a work flow with task independence and low task differentiation were associated with an absence of "required" cooperation (6b) and of "permitted" cooperation (6b) if the workers were confined to the work space. If the work space was "open," then "permitted" cooperation occurred independent of "required" cooperation (6b). These technological characteristics were also associated with influences of a non-technical nature of both the semi-technical and extra-technical variety (7).

Technologies that use either(a) hand and machine tools for the conversion process and a "live-line" transfer process;or(b) no conversion process, a steered automatics conversion process,or a steered and self-regulating automatics conversion process coupled with a "steered line" (i.e., locomotives, remote-controlled conveyors, cranes) transfer process; or(c) steered and self-regulating automatics conversion process coupled with a "live-line" transfer process and incorporate a work flow that exhibits dependence and a high differentiation of tasks were associated with a sequential "required" cooperation pattern (6b, taking up distribution of cooperative acts) as well as with the absence of "permitted" cooperation (6b), as the workers are confined to the work space. These technological characteristics were also associated with an irreversible (one direction within a cycle) technical (technical resources influence technical performance) influence pattern (7).

Technologies which use either a steered, self-regulating automatics conversion process with a "steered-line" transfer process or a self-regulating automatics conversion process with a "live-line" conversion process incorporating "signal flow" with dependence as well as high differentiation of tasks were associated with a sporadic-symbolic "required" cooperation pattern (6b) as well as "permitted" cooperation incorporated into the "required" cooperation (6b), despite the fact that workers are confined to their work space. These technological characteristics were also associated with a technical influence pattern of an irreversible nature (7).

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Miller, E. J., and Rice, A. K. Systems of Organizations. London: Tavistock Publications, 1967. 269 pp. (Distributed in the United States by Barnes and Noble, Inc.)

Interviews and field observation were used to gather data in a study of European organizations including sales organizations, dry cleaning shops, family businesses, construction teams, research teams, airline operations, and the steel industry. Participants included factory staff and management, salesmen, academics (on research teams), and pilots, cabin crews, and ground engineering crews of airlines.

Results indicated that most sales organizations fail to give their representatives more stable and secure interpersonal relationships (6b) than are available within task boundaries that are not conducive to fulfilling these needs. Salesmen's time away from the company was associated with isolation (1).

In dry-cleaning organizations, control of transactions across enterprise/environment boundary for both intakes and outputs was vested in shop staff (7). Control depended upon human relationships that the staff developed with their customers (6b); these relationships were usually suffused with feelings that were deeper and stronger than was strictly appropriate to the manifest task. Staff tended to identify with customers at the expense of the company (1). A technological change -- installing small, electrically driven dry cleaning plants on premises instead of shipping the work out, as before, caused counter managers to have to subordinate themselves to plant managers (7). Staff had group satisfaction in completing whole tasks (4) and thus the primary relationship with customers was more under their control (7). With the whole task under their control (7), they were granted more autonomy by management and felt that results were achieved by their own efforts (5b; 4). Also, some sentient grouping was provided in the company (6b) to counter-balance extreme identification with customers.

In family businesses, having been promoted did not increase self-respect and self-esteem as much as a similar promotion in the outside world (4). Having to produce sons to carry on the business distorted the relationship between husband and wife and between parents and children (11). Non-family members who worked in a family company for many years tended to be kept on payroll past the time of their usefulness (3). Non-family members who felt an incongruence in their need for power tended to leave the business (1). Family businesses developed the same task and sentient groups (6b) for family members. Such businesses had climates in which established relationships are within limits and are more important than performance (6b). Extending the family that runs the business by means of marriage of a daughter could result in conflict and disorder among future generations (11).

Systems of Organizations
(Continued)

In construction teams, management has to integrate the activities of groups and individuals that inherently tend to break apart and whose primary allegiance is not to the project team (1). Plant and organizational design, if not done concurrently, leaves development of the sentient and task groups to chance (6b). At the start of the formation of a "team," managers gravitated toward those tasks and positions that seemed relatively familiar and formed relationships with people operationally similar to one another (6b). In the setting-up process, in which the task is to create a system with "organic" properties, tension and conflict was inevitable (2).

In research teams, a group of scientists who had worked together on a project generally preferred to preserve their group even after their assigned task was completed (6b). Scientists who assumed managerial roles grew farther and farther from their creative thinking (5b). Researchers in academic institutions were the most free to pursue their own research aims (7; 5b). Researchers in industry had the best opportunity to see their ideas implemented (4; 5b) but did not usually get to work on the ideas most interesting to them (7; 5). Scientists in government had some freedom to choose their line of work (7; 5) and sometimes had the satisfaction of having influenced governmental decisions (4; 7).

In airline operations, working in the airline industry as a pilot, a member of a cabin crew, or as a member of a ground engineering team involved a great deal of stress and strain (2). On the ground, passenger-handling staff viewed themselves and were viewed by other members of airline operations as having inferior status (4).

In the steel industry, a technological change to an automated, computer-based information technology with computer control of production operations was associated with diminished autonomy of production managers (7), increased power of engineers and other specialists (7), and increased inter-departmental dependency, especially on the managerial level (6b; 7). Technical production expertise was not important in the new production manager's role (5b); the new role offered a gain in status (4); also, a collapsed hierarchical structure (7) resulted (6b), along with frequent changes in task and sentient boundaries (6b).

Mott, Paul E.; Mann, Floyd C.; McLoughlin, Quin; and Warwick, Donald P. Shift Work. Ann Arbor: The University of Michigan Press, 1965. 351 pp.

This study analyzed the effects of shift work in five plants representing two companies in the United States. All of the workers were from continuous-process industries, lived in communities of varying population size, did work of intermediate physical difficulty, and did work directly related to the continuous process itself. Workers who met this description but who were females, Negroes, or clerical and office workers were excluded. Workers who lived more than 25 miles from the factory were also excluded. If a shift worker was included in the sample, his wife (if he had one) was also included. The data for this study were collected by means of interviews and questionnaires.

The study revealed a significant correlation between the total perceived role difficulty (occupational role; 11, father and husband role; 10, social role; and solitary activities role) and complaints about time-oriented rhythmic body functioning (2). Complaints about time-oriented body functions (2) were in turn inversely related to total self-esteem (4), marital happiness (11), and marital integration (11).

Complaints about time-oriented body functions (2) and total perceived role difficulty were both negatively associated with overall satisfaction with working hours (8). On the other hand, marital integration (11) and total self-esteem (4) were both positively associated with the overall satisfaction with working hours (8).

Evening, night, and rotating shift work were associated with creating difficulties for such shift workers in the execution of their family responsibilities (11). Because the functional integration of the shift-working family (11) was less adequate, the amount of strain and tension found in the family was higher (11). Working shifts, however, was not found to be associated with the amount of marital happiness reported (11). Neither was shift work associated with interference with informal social life (10,11: visiting with friends or relatives). Shift work did interfere with formal social activities (10,11: weddings, etc.). Rotating shift workers were associated with having far fewer friends than either day workers or other shift workers (10). Shift workers were also found to be associated with belonging to fewer voluntary associations (10c).

The study also revealed that the greater the interference felt by the worker across all of his roles and activities, the lower his self-esteem (4) and the higher his anxiety and conflict-pressure (2). This basic relationship was strongest for the younger, better-educated workers, who had small children living at home and who had relatively short lengths of service on their shifts. Workers on the steady night and rotating shifts were associated

Shift Work
(Continued)

with the most difficulties in regard to time-oriented body functions (2, sleeping, eating, and bowel habits). The day and afternoon shift workers, however, were associated with the highest prevalence of ulcers and complaints about their general health (2). Workers who had second jobs were less likely to be disturbed by problems of rhythmic functioning (2). Home-life factors (11, the amount of noise during sleeping hours and the wife's willingness to prepare special meals) were related to the level of complaints in regard to time-oriented body functioning (2). Age and length of service were not found to be associated with the level of complaints (2).

Working on the steady afternoon shift was associated with the worker's seldom seeing his school-age children (11) and with lack of all activities associated with the evening hours during working days, whether it was simply being at home with his wife (11) or going out socially with her or alone to see friends (10).

Working on the steady night shift did not interfere with'family (11) and social roles (10) nearly as much as the steady afternoon and rotating shifts did. The night shift workers had the greatest difficulty in their role behaviors as sexual partners and protectors for their wives (11). Night shift workers also experienced difficulty in regard to their time-oriented body functions (2).

Working on a rotating shift was associated with being left out of social activities (10). This shift also had the highest proportion of persons reporting that they had trouble with their time-oriented body functions (2). Finally, working on a rotating shift was associated with the worker being unable to give as much attention as he would like to his wife and children (11).

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Mueller, Eva. Technological Advance in an Expanding Economy: Its Impact on a Cross-Section of the Labor Force. Ann Arbor: Institute for Social Research, University of Michigan, 1969. 254 pp.

Interviews and questionnaires were used to gather data for a cross-sectional analysis of the United States labor force. A representative national cross-section of households was selected, and all labor force participants (those individuals who were either working or actively seeking to work at least 20 hours per week) were interviewed. The emphasis of the study was on the impact of technology and technological change.

Advances in machine technology were shown to be accompanied by an improvement in the physical work environment (6a, less heat and noise; better lighting and ventilation) as well as a greater opportunity to talk with co-workers (6b) and a reduction in the danger of personal injury (2). In medium and large multi-plant firms, machines operated by others are important to one's work (7).

In terms of their relation to their equipment (i.e., operate only, indirect only, or some combination of both), most workers felt that they had ample time to talk (6b), and 82 percent felt that they did not have unused skills (5b).

On the whole, those who were affected by a technological change during the past five years were in a stronger position in the labor market (3) than those who had worked with unchanged technology for the past five years, but the differences that emerged were not pronounced or consistent.

Among the self-employed, farmers reported the greatest overall changes in the machine technology they were required to deal with (5a). Among industries, manufacturing ranked first with regard to equipment change (5a), especially in multi-plant firms in which the employment rate had been expanding.

In the transitional phase, machine change in general did not change the number of people needed in a section, reduce permissible working hours, or abolish individuals' jobs (3). Machine change in general did not change income, seniority rights, or fringe benefits (3). In general, operators of the most highly automated equipment (i.e., logical control mechanisms... numerical or tape computers) had the highest mediam income level (3). Operators of the most highly automated equipment had been promoted the most (9) and received the greatest income increases (3) over the past five years. The operators of the most highly

Technological Advance in an Expanding Economy: Its Impact on a Cross-Section of the Labor Force
(Continued)

automated equipment also had experienced the least unemployment over the last five years (3).

Workers experiencing a machine change within the past five years had in general had more promotions (9) and more income increases (3) than workers who had not.

Equipment change appeared to raise the challenge (5b) of a job much more than it reduced it; it tended to enlarge the job in a non-physical sense, while the physical work burden was often reduced (2) by technological advance. Workers using the most sophisticated equipment frequently felt a need for more education (5a).

(A limitation of the analysis was that workers were not interviewed during any of the changeover periods; rather, they were interviewed months or even years later.)

O'Connell, Jeremiah J. Managing Organizational Innovation.
Homewood, Illinois: Richard D. Irwin, Inc., 1968. 199 pp.

Observation and interviews, supplemented by data from consultant reports and company records, were used in a nonparticipant's study of the effects on supervisors and managers of changes in organizational structure within a large insurance company, instigated by a consultant firm. Researchers visited 22 of the company's branch offices in eight states and interviewed 45 first-line supervisors (titled "assistant managers" before the change and "regular managers" afterward), as well as other branch personnel.

Prior to the change, the assistant manager was a "supersalesman" rather than a supervisor. The assistant manager spent most of his time in the field with an agent -- his subordinate -- who was trained by example in the field. The assistant manager also processed reports from his agent staff, required daily reports of productivity from agents, and periodically audited agents' accounts. These procedures deleted much of the agents' personal control (7) and kept them in a state of dependency (4).

Most of the first-line supervisor's time was spent in individual contact with agents, which he virtually always initiated (7; 6b). The first-line supervisor was the responder, however, in almost all of his interactions with his immediate supervisor, the branch manager (7; 6b). First-line supervisors saw themselves not as supervisors but as supersalesmen who must prove their ability in order to be promoted (9); therefore, they identified with the branch (8) but not with their staffs.

The change involved giving the first-line supervisor the title "regular manager" and his own office with conference room, and making him explicitly the agents' boss (4; 7). This was intended to catalyze the change from supersalesmen to supervisor. It was expected that the regular manager would become more autonomous and exhibit much more boundary control. But, fifteen months after the change in the environmental, structural, and behavioral forces on the regular manager's field, the following behavioral aspects were found to exist: although some clinical field training to enable the agents to become autonomous (7), self-providing (4) salesmen did occur, much more demonstration selling existed than was expected. Also, in both individual conferences with agents and in conferences with branch managers, much more checking continued (7), as opposed to the proposed planning (boundary control) functions. In short, during nonprogrammed interactions between the agents and regular managers, the agents did assert a greater amount of initiation of dialogue (6b; 7).

Managing Organizational Innovation
(Continued)

In the other, programmed encounters, the regular manager still dominated the initiations (6b; 7). The same conditions occurred in the conversations between the branch managers and the regular managers. In unprogrammed encounters, the regular manager initiated conversation to a greater extent (6b; 7); in the programmed encounters, the branch managers still dominated the initiation (6b; 7). Many regular managers still felt that the branch managers did not allow them to be responsibly autonomous supervisors (7; 4).

The difference in the value of new versus old business to the regular manager as compared to the agents (3) resulted in a strain in their relationship (6b). The economic constraints on the regular managers (3) also reduced the feelings of cooperation among regular managers (6b).

Regular managers did begin to feel that their positions had more attractive career prospects (9) than before, which was associated with a lower turnover from that position to regular agent (1). Changes in the special manager's role, however, were associated with feelings of decreased status and authority on the part of the regular managers (4).

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Ohlstrom, Bo. Kockumsrapporten: Om orsaker till missnöje bland varvsarbetare. Stockholm: Prisma, 1970. (Forthcoming in English.)

A study carried out at the hull section of Kockums shipyard, in Sweden, investigated the sources of worker discontent. The study was conducted in the fall of 1969, after heavy labor turnover and other signs of discontent, following technological, organizational, and job changes, had become a source of organizational concern. Interviews, structured only by a general question guide, were conducted with a randomly-selected, stratified sample of 70 workers. (The interviews are presented in edited form in the book.) Also, approximately 30 representatives of management and supervision were interviewed.

Originally, ships had been built on berths, where the ship was assembled almost in its entirety. A change in the production method made the ship-building process more like an assembly-line: assembly was carried out at separate stations, where progressively larger sections were put together. Final assembly took place in a dock, rather than on the berth. The new process reduced work flexibility (7), since each ship section had to arrive at the next station at the proper moment to make possible the next stage of assembly.

As a result of the changed shipbuilding method, work became heavier, more physically difficult, and more dangerous (2). Both the jobs themselves and the existing team organization changed: formerly, jobs were strictly defined and circumscribed; now tasks were added to each job, to achieve production efficiency rather than to enlarge jobs. The strict demands of work flow caused people to be interrupted in the middle of one job to help another team; not only was the existing team organization disrupted (6b) and the disruption exacerbated by hiring of alien workers and resultant communication difficulties (6b), but also the shifting of workers from one job to another caused them to lose pay under the piece-rate system (3).

An organizational change also occurred in connection with the technological change in production process: production technicians were introduced into the existing organizational structure of worker-foreman-superintendent. Since the technicians acted directly upon the workers, a double system occurred. In addition, production technicians were given more power than foremen in deciding piece-wages (3), with the result that, in decisions about pay (3), the technicians and foremen "passed the buck" from one to the other.

There was no attempt to assess the weight of these factors in creating worker discontent, including turnover (1); rather, attention focussed on the way in which the factors interrelated. Outcomes of the changes in technology, jobs, and organization were, besides turnover : increased barriers to working productively

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Kockumsrapporten: Om orsaker till missnöje bland varvsarbetare
(Continued)

(5b), decreased potential for equitable pay (3), "too-low" earnings, (3) social insecurity (6b), feelings of helplessness (1), decreased worker solidarity (6b), and general distrust of supervision and management (8). A main finding of the study was that the piece-rate system (3), as applied at Kockums, seriously intensified the problems created by other factors and was an impediment to solution attempts. Since the piece-rate system tended to make all work-related problems into money problems (3), it was difficult to assess the importance of the job factors in and of themselves.

The Kockums case represents an illustration of ways in which a major technological change in production process, accomplished with traditional techniques of job design, disrupts existing team organization (6b) and thereby is detrimental both to workers' social exchange (6b) and to use of workers' innovative and problem-solving capabilities (5b). Under conditions of the change, workers' problem-solving capabilities were badly needed to solve production problems associated with the change in process; the failure to employ them occurred despite the fact that the job design process had not fragmented their jobs; on the contrary, it had in many cases implied a job enlargement.

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Paterson, T.T. Glasgow Limited: A Case Study in Industrial War and Peace. London: Cambridge University Press, 1960. 243 pp.

In a case study of a manufacturing factory in Glasgow, Scotland between 1950 and 1955, data were collected from company and union files and from observations made at the factory and unstructured interviews conducted during noon hour and at some of the workers' homes. All of the workers who were subjects of the study were unskilled laborers. The sample on which the data are based were machinemen and assemblers.

Among these unskilled workers, "work unsuitable," "dissatisfied with job," and "job too heavy" were the reasons most significantly associated with leaving the job (1). A change in supervision, along with the initiation of an incentive bonus scheme (3), was associated with workers no longer giving "dissatisfaction with wages" (3) as a reason for turnover (1). Tenure was also found to be associated with labor turnover (1): sixty-three percent of the turnover was among workers with less than one month of work experience.

The occurrence of work stoppages and the concomitant stress were found to be associated with the occurrence of accidents at work (2). There was no relationship between length of service and the accident rate (2); however, a strong correlation was found between the labor turnover rate (1) and the accident rate (2). Productivity was found to be inversely correlated with the occurrence of psychosomatic disorders (2), but it was probably the causes of the low productivity -- work stoppages and strikes -- that resulted in the high rate of psychosomatic disorders (2). Labor turnover (1) was found to be positively associated with the rate of psychosomatic disorders (2): mobile men tended to experience nervous and digestive symptoms (2) under conditions of stress. Stable men tended to react by having skin dysfunctions (2). Being a controller was found to be associated with the incidence of long-term compensable occupational dermatitis (2), as compared with assemblers or processing and preparatory men. In the overall factory situation, males tended to have a lower absentee rate (1) than females.

Porter, Lyman W., and Lawler, Edward E., III. Managerial Attitudes and Performance. Homewood, Illinois: Richard E. Irwin, Inc., 1968. 209 pp.

In a questionnaire study, lower-level managers (generally first-line) were compared with middle managers (above first-line but below vice-president) in three divisions of state governments and from privately-owned manufacturing and utility companies. The government divisions were an employment department, a conservation department, and an agency operating state-owned retail liquor stores. The privately owned organizations were a large canned-food processor, a large chemical manufacturer, an aerospace manufacturer-developer, and a geographically decentralized operating division of a large public utility. Questionnaires were sent to managers in the organizations at two different times, the sample sizes being 563 and 428. Mean age of managers was 45; mean education was above high school level for approximately 70 percent of the sample; and mean tenure was 17 years.

For both the public and private samples of managers, where the value of the potential reward was regarded highly (3, high importance of pay to a manager), and where the perceived probability that effort would lead to the reward was also high, it was shown that the effort extended by the managers was highest (8).

There was a stronger relationship between role perceptions and performance for high-than for low-effort managers (8). Those managers who saw their jobs as demanding considerable inner-directed behavior (7; 5b) were more effective on their jobs than those who perceived their jobs as requiring less inner-directed behavior.

The higher the rating given the quality of an individual's job performance by his superior, the greater his expressed degree of need fulfillment (3, security; 6b, social; 4, esteem; 7, autonomy; 5, self-actualization). Also, the higher an individual rated the quality of his own performance, the greater his expressed degree of need fulfillment (3; 6b; 4; 7; 5). This relationship between need fulfillment and quality of performance was greater for self-ratings, as opposed to ratings from superiors. Further, the higher an individual was rated by his supervisor on the quality of his job performance, the lower his feelings of need dissatisfaction (expected equitable fulfillment of need minus received fulfillment of need as perceived by manager), the needs being the same (3; 6b; 4; 7; 5). This relationship, however, was not shown to be stronger than the one between superior-rated performance and need fulfillment.

Managerial Attitudes and Performance
(Continued)

There were no relationships between self-ratings of quality of performance and need satisfaction (3; 6b; 4; 7; 5). There were approximately equal relationships between overall ratings of effort (8) in comparison to performance in association with overall need fulfillment (3; 6b; 4; 7; 5).

For the subgroup of managers who worked in conditions in which pay was tied to performance, high levels of effort (8) and high ratings by superiors on quality of performance were related to high levels of satisfaction with pay (3).

Sadler, Philip, and Barry, Bernard. Organisational Development. London: Longmans, Green and Co. Ltd., 1970, 235 pp.

This book reports a study of two family-owned printing companies in the United Kingdom. A "family firm" is defined as an enterprise that in practice is controlled by the members of a single family. The printing industry in England is very traditional, and the study was concerned with the effects that an action research change process had upon the managers and supervisors of the firms involved. All data was collected by means of structured and unstructured interviews, as well as questionnaires.

Prior to the change in the Jowert Press, the junior and middle managers were associated with a high degree of informal integration (6b); however, in the sales department there was a complete absence of informal consensus about status (4). In all departments, three-quarters of the communication reported was outside of the formal chain of command (7). Sixty-one percent of the managers and supervisors felt that they had some difficulty in getting all of the information they needed to do their jobs (7). Eighty-nine percent of the managers and supervisors, however, felt that if they had an idea that would make the job more efficient, "it would be quite or very easy" to get people above them to listen (7). Only forty-six percent felt that they knew all or most of what was going on (1). Managers and supervisors of long tenure tended to have feelings of teamwork (6b).

All of the above-noted measurements were taken in 1964, prior to the change. The major aspects of the subsequent change involved the decentralization of management and the control of functions to the unit level, where the work was being done (7). Generally, the individual functions became more autonomous (7), since communication channels were formalized horizontally as well as vertically. These changes occurred simultaneously with the freeing of the directors from involvement with day-to-day operations. Status relations were made explicit (4), and an overlap was created in the shifts of the day and night managers to improve communication. Overall, the change was instituted in order to build teamwork, encourage a free flow of communication outside the line of command as well as within it, and to increase people's awareness of the overall objectives, while at the same time providing people with job descriptions, organizational charts, and statements of policy.

Two years later, in 1966, forty members of management and supervision were interviewed in order to ascertain the effects of the organizational change. The organizational change was found to be associated with the following effects. Seventy-five percent of the managers and supervisors felt that they knew "completely or most" of what is going on (8). Fifty percent, however, still felt that they had "some" difficulty in getting all of the information they needed in order to get the job done (7). Ninety-five percent felt that if they had an idea that would make the job more efficient,

Organisational Development
(Continued)

"it would be quite or very easy to get the people above them to listen" (7). Only seventeen percent, however, found the changes to be associated with the firm's being a more pleasant place to work (6b). People occupying the same hierarchical level tended to have the same perceptions of status (4).

A separate study was done on the managers and supervisors of the Albion Press. A similar change effort was completed in 1965, and its effects were analyzed in 1967. This similar type of organizational change in the Albion Press was found to be associated with the following effects. The managers and supervisors felt less in the picture than before the change (1). Seventy-eight percent, as compared to the former 33 percent, felt that they had no difficulty in getting all of the information they needed in order to get their jobs done (7). There were no significant differences in perceptions of the ease of getting superiors to listen to ideas (7). Finally, no one felt that the organizational change was associated with the firm's being a more pleasant place to work (6b).

Scott, W.H.; Mumford, Enid; McGivering, I.C.; and Kirkby, J.M.
Coal and Conflict. Liverpool: Liverpool University Press, 1963.
214 pp.

A comparative investigation was carried out in four coal mines in the Lancashire coalfield. The study, based on documentary analysis, observation, and an intensive interviewing program, describes the particular problems of the main occupational groups in coal mining and relates these problems to an assessment of relative morale, based on a wide variety of indices. There is also an analysis of the industrial relations machinery as it operated during the period of the study.

Results indicated that attitudes toward nationalization were very significantly associated with absenteeism (1). Those in the low-absence category were less likely to be indifferent to or critical of nationalization. Workers who were more likely to express a wish to change jobs tended to have a high rate of absenteeism (1). Furthermore, those with low absenteeism (1) were much more likely to emphasize changes in production or organization: high absentees (1) were much more likely to stress changes in welfare and working conditions. Workers who were critical of management and those who emphasized the desirability of changes in welfare and working conditions tended to desire a job change (1).

The status of an occupation (i.e., deputy) was positively associated with income and job security (3) as well as with the potential for promotion (9). On the contrary, the status hierarchy was negatively associated with the desirability of physical conditions at work (6a). Under-officials and haulage workers had significantly less absences (1), whereas fillers, rippers, packers, cutters, and conveyor movers had significantly more absences (1). Under-officials, fillers, rippers, and maintenance workers tended to have significantly less desire to change their jobs. Haulage and other surface workers were associated with a significantly greater desire to change their jobs (1).

The study also revealed that the amount of pay (3), satisfaction with pay (3), and the perceived opportunity for advancement (9) varied directly with position in the status hierarchy. Position in the status hierarchy was inversely related to the desire of an employee to change his job (1). The under-officials were more critical of pay (3), hours, and their trade union than were most other groups (1).

Youth among haulage workers was associated with high absentee rates (1) and a high desire to change jobs (1). Haulage workers who have to work overtime tended to have pay satisfaction (3); if no overtime was possible, dissatisfaction set in.

Maintenance workers tended not to want to change their occupations (8). They were also associated with satisfactory reward payments and job security (3). At least a substantial minority of the maintenance workers, however, felt that their status and importance were not given adequate recognition (4).

Other-surface workers (not maintenance workers) were associated with the greatest dissatisfaction with pay (3) and working conditions (6a) and were the most desirous of changing their jobs (1).

Rippers were the highest-paid faceworkers (3); they work in small, fairly stable teams that are more independent than other face groups in regard to activities and supervision (7). Among fillers, another classification of faceworkers, those who worked in Pit A2 were significantly more approving of their job (8); fillers who worked in Pit B1 were significantly more critical of their jobs (1) than fillers as a whole.

The piecework system (3) was associated with disputes over wages (3) being the predominant grievance issue. Considering all grievances, the day-shift faceworkers, particularly fillers and rippers, made more use of the organizational conciliation machinery than did back-shift faceworkers (8). Fillers, rippers, and packers, however, were associated with the largest number of strikes, overtime bans, and go-slows, carried out in order to settle their grievances (1). Other methods, such as grumbling, absenteeism (1), and quitting the job (1), were not associated with permanently resolving any existing conflict (6b). Finally, the existence of the organizational conciliatory machinery was associated with reduction of the day-to-day impact of conflict (6b) on the running of the collieries.

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Coal and Conflict
(Continued)

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Scott, W. H., editor. Office Automation: Administrative and Human Problems. Paris: Organization for Economic Co-operation and Development, 1965. 103 pp.

(See abstracts for articles by: Eliaeson, P. J.; Jaeggi, Urs and Wiedemann, Herbert; Marenco, Claudine; and Mumford, Enid, in Section A.)

Shepard, J.M. Automation and Alienation. Cambridge: The MIT Press, 1971. 163 pp.

Three man-machine relationships were explored in the settings of a large bank, a large insurance company, four small insurance companies, one automobile assembly line, and an oil refinery. The man-machine relationships were: a non-mechanized craft maintenance function and traditional office work, a mechanized assembly line, an EDP office situation, and an automated oil refinery, as well as computer operators and software personnel (programmers and system analysts). Built into the independent variable (the technology employed) were two important ideas: specifically, that a different degree of functional specialization is associated with each phase in the man-machine relationship, non-mechanized systems being associated with lower specialization, mechanized systems with high specialization, and automated systems with lower specialization.

Among factory workers, working on a mechanized assembly line was associated with the highest perceptions of alienation (1), whereas working in a non-mechanized maintenance function or in an automated oil refinery was associated with significantly lower perceptions of alienation (1), as measured by a questionnaire. The questionnaire's five scales related to feelings of powerlessness, meaninglessness, normlessness, self-evaluative volvement in work, and instrumental work orientation (1).

For all scales except powerlessness, working in an automated oil refinery was associated with less alienation (1) than were even the non-mechanized maintenance tasks. Among office workers, non-mechanized clerks tended to have as much alienation (1) as mechanized office machine operators. Also, no differences in perception of alienation (1) were found between EDP-related machine operators and non-EDP-related office machine operators. Office computer operators had less alienation (1) than office workers involved with either mechanized or non-mechanized office tasks, for all scales except powerlessness. Workers in all three man-machine relationships perceived the same amount of powerlessness in their work situation (1).

Within the automated man-machine relationship, programmers and systems analysts had less alienation than the computer operators (1). Only on the meaninglessness scale were the programmers significantly more alienated (1) than systems analysts. In non-mechanized and mechanized man-machine relationships, there was no significant difference between men and women on the powerlessness, meaninglessness, and normlessness scales (1). However, female programmers and systems analysts were associated with more alienation (1) than their male counterparts on the meaninglessness, normlessness, and self-evaluative involvement scales. Within the same man-machine relationship catagories, the size or purpose of the organization was not found to be associated with feelings of alienation (1).

Automation and Alienation
(Continued)

In summary, the curvilinear relationships found to exist between the phases in the man-machine relationship and alienation among factory workers generally appeared among office employees as well. Software personnel and computer operators were lower on nearly all alienation dimensions (1) than were nonmechanized and mechanized clerical workers, the one exception being that computer operators were no less powerless (1) than nonmechanized and mechanized office employees. Contrary to expectations, there was a fairly consistent lack of difference in perceived alienation (1) between office machine operators and clerks in the traditional nonmechanized man-machine relationship.

Both male and female office machine operators were consistently less alienated (1) than the automobile assembly-line workers. Also, office machine operators and clerks in non-mechanized jobs were not significantly more alienated (1) than craftsmen in the automobile factory. Particularly, office machine operators and nonmechanized clerks were self-involved in work (8) and noninstrumentally-oriented toward work (8) at almost the same levels as craftsmen. Furthermore, computer operators were less alienated (1) than the skilled automobile workers in terms of normlessness, self-evaluative involvement, and instrumental work orientation. Computer software personnel were less alienated (1) than the automobile maintenance workers on all the scales of alienation. Also, computer operators were more alienated (1) than oil refinery monitors in terms of powerlessness and self-evaluative work involvement. On the other hand, male programmers and systems analysts were less alienated (1) than oil refinery monitors in terms of powerlessness and meaninglessness.

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Sheppard, Harold L., and Herrick, Neal Q. Where Have All the Robots Gone?: Worker Dissatisfaction in the '70s. New York: The Free Press, 1972.

In a national survey of workers (N = 1,533), job dissatisfaction (1) was most experienced by black workers under 30 years, young workers with some college, and young women (older males were most satisfied with their jobs). While blacks over 44 years had lower dissatisfaction with job and with life, they reported greater depression (2). For all workers in this survey job satisfaction (1) was related most highly to pleasant surroundings (6a), interesting work, which utilizes workers' aptitudes and which provides opportunity to develop (5), freedom in the job (7), and good pay and job security (3).

Interviews of 371 white male union workers in four Pennsylvania cities, and in Michigan, revealed that 30 percent were discontented with what they had achieved in life relative to their aspirations. Of these discontented, over half reported having jobs that they did not want, such jobs being seen as low on variety, autonomy (7), and responsibility and having little chance for advancement (9). These people were the most alienated (1), and were not confident of having any impact in the political process (10c), but voted for George Wallace in 1968 in disproportionate numbers.

With regard to other aspects of their jobs, these workers in the second sample reported low opportunities to learn more on the job (5a), and that many people could do their jobs (4). Combining all job aspects (autonomy, variety, responsibility) for Pennsylvania workers resulted in total task scores (5; 7) for 258 respondents in the sample. Task scores were found related to management emphasis on quality work. Task scores were found negatively related to desire to change jobs (1), and to desire to retire early (1). Total task scores were positively related to adequacy of income (3) and certainty of income in future, and ability to improve one's job through moving (3), or through promotion (9). Workers with high task ratings are more likely to see education (10c; 11) and effort related to advancement (9), while those with low task ratings tend to take a fatalistic or "lottery" view of getting ahead (1). Low worker authoritarianism and low task rating are related to high alienation (1).

Taylor, J. C. Technology and Planned Organizational Change. Ann Arbor, Michigan: Institute for Social Research, University of Michigan, 1971.

Non-supervisory members of some 300 work groups (N = 3,800) in two large companies -- an oil refinery and an insurance firm -- completed paper-and-pencil questionnaires on one occasion before and twice following a change attempt in the direction of more participative groups.

In neither company was education, tenure, or urban versus rural background found to be related to supervisory or peer leadership (7) or to group process (6b). In the refinery, level of technological sophistication was found to be directly related to the pre-change level of supervisory and peer leadership (7) and to group process (6b), whereas in the insurance company these relationships were the inverse (7; 6b).

Following a successful change attempt to increase peer leadership (7) and group process (6b) in the refinery, groups with more sophisticated technology showed more increase than groups with less sophisticated technology. In the insurance company, where the change attempt was unsuccessful (and in fact produced negative response company-wide), the groups with more sophisticated technology maintained their pre-change levels of peer leadership (7) and group process (6b), while other groups declined for these measures; thus, technology had the effect of constraining group effects (7; 6b) counter to deleterious company actions.

Two additional companies (optics -- 20 groups -- and plastics production -- 40 groups) were surveyed only twice, and one metal fabricating firm (140 groups) was surveyed once. These sites confirmed that in the pre-change period, degree of peer leadership (7) was higher in groups with more sophisticated technology.

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Trist, E. L.; Higgin, G. W.; Murray, H.; and Pollock, A. B.
Organizational Choice. London: Tavistock Publications,
1963. 332 pp.

In a two-year field study of various nationalized coal mining operations in and around Durham, Great Britain, five different methods of coal-getting were compared. The methods were: traditional single-place working; semi-mechanized conventional longwall method; semi-mechanized composite longwall method; advanced-mechanized conventional longwall method; advanced-mechanized composite longwall method.

In traditional single-place working, the miner has all of the skills to complete the self-contained work task (5b) and is a self-supervising worker (7) toward whom the deputy stands in a service rather than supervisory relation (6b). Groups of up to six men share a place, selecting their own work mates (6b; 7). Since all men do all jobs, either on the same or on different shifts, they share equally in the same paynote (3). The miners perceive this work organization as being well adapted to the general hazards of an underground environment (2).

In the semi-mechanized conventional longwall method, there is formal division of labor, with specialized tasks carried out by a number of groups of varying size (5b). In larger task groups, all members within a specialized group are supposed to do the same amount of work, but, since varying capacities exist, social relations (6b) become strained. In the smaller task groups, each member makes a unique and interdependent contribution resulting in more amicable relations (6b). Certain required task specialties result in isolate roles (6b). Each task group has its own customs and agreements (6b), including separate paynotes (3), resulting in task group segregation (6b), which in turn requires that coordination and control be provided by management (7). Traditionally, however, the role of the deputy is that of service, and since coercive control is not practical in the high-risk underground environment, management lacks the ability to control the separate task units as an effective team (7; 4; 5b). Furthermore, since the deputies and managers the next level up have only shift responsibility (7), overall cycle responsibility is given to the undermanager, who is three steps in managerial rank away from the coal face (6b).

Under the semi-mechanized composite longwall method, autonomous teams are formed, which undertake full responsibility for allocating men to shifts and tasks (7), and the methods devised give rise to multiskilled roles (5b). There is a common paynote, which all

Organizational Choice
(Continued)

members of the team share equally (3). The task groups are the same as on conventional longwalls with regard to the activities they carry out but are not segregated from each other and are interchangeable in membership (6b). Such group regulation and continuity of face operations parallels the self-regulation of single-pace working (7). Thus, the deputy is released to perform service-type, boundary-control operations (6b). As compared to the conventional method, the longwall method was perceived to be more conducive to good relations and social health (6b). In low seams, the overall cycle group is much smaller than in higher seams (6b) and therefore easier to handle on composite principles. In regard to change, recent tradition with single place results in harmonious changeover (6b). In low seam pits where the tradition is strong, the changeover results in better attendance (1) and improved relations (6b). If no tradition exists, face-to-face informal groups discussing feelings and attitudes will result in lessening the resistance (6b).

With the advanced-mechanized conventional longwall method, there are fewer work roles, less narrowly specialized than those on semi-mechanized conventional faces, and fewer task groups of a kind requiring an interlocking of activities of different members (6b). Each group undertakes a larger part of the cycle (7). Recent experience with the single place composite tradition resulted in greater acceptance of the responsibility of the whole cycle (7), recognition of the dependence of one man or group on another (6b), and development of group self-regulation (7) than would have occurred if recent experience was lacking.

Under the advanced-mechanized composite longwall method, where higher mechanization is intended, advanced introduction of composite methods at the existing level of mechanization may not only assist in the transition (6b) but also allow learning to take place (5a), which will later aid the work team. Mutual choice of team members (7) must be given to workers. Introduction of new technology results in necessity for a longer learning period (5a) to allow the explicit exploration and development of a satisfactory internal work organization (6b). Due to the management's lack of the foresight to disseminate any information other than technical, there is a failure to communicate social-psychological lessons learned from an earlier group to a later group involved in a program of reorganization (6b; 5a).

5047

Walker, Charles R. Toward the Automatic Factory. New Haven, Conn.: Yale University Press, 1957.

This study deals with the social-psychological changes experienced by blue collar workers after two and three years of interacting in a new, continuous-process seamless pipe mill. All of the workers had previously worked in the old, less automated seamless pipe mill before the changeover, most of them for all of their working life. The new mill is a privately owned division of the United States Steel Corporation, located in Lorain, Ohio. Interviews were conducted and questionnaires administered to the nine men who made up the seamless pipe mill team. Immediate changes (one to two years after starting work in the new, continuous-process plant) were as follows. The lower number of men per team and their greater spatial distance at the work place resulted in feelings of social isolation (6b), which were somewhat compensated for by use of the public address system. Associations from the old mill, however, made the social adjustment easier (6b). More automated machinery reduced physical effort and direct contact with the dangers of hot steel (6a; 2) but resulted in the work being more mentally stressful (2).

Initially, constant interaction with supervisors made worker-supervisory relations extremely positive (6b). Shortly thereafter, however, interactions decreased (6b), which resulted in heightened pressure, tension (2), and bad feelings (6b). Decreased interaction also resulted in workers feeling that they were not being involved in production problems or asked for their advice or suggestions (4; 5b). Originally, without an incentive plan there was tremendous dissatisfaction with pay (3). When a bonus was added, a year and nine months after work began at the new plant, it was too complicated, and there were still too many technological factors to be worked out; therefore, dissatisfaction with pay remained (3).

With control switches and observation booths located at some distance from the actual operations (6a) and fewer men exposed to intense heat, dirt, or damage of working virtually "on top of the pipe" (2), the majority of the men were generally more satisfied with their new physical work environment (6a).

The decreased number of task positions resulted in negative feelings toward the possibility of future promotion (9). The tremendously increased output in tonnage per man resulted in negative feelings toward future job security within the company (3).

Toward the Automatic Factory
(Continued)

After three years, a tremendous increase in the output of pipe, coupled with the workers receiving an above-base-rate bonus, resulted in generally high satisfaction with pay (3). Working together in a small team over the years, with incentive earnings(3), resulted in a tremendous development and growth of team work (6b). Increased mill speed resulted in jobs being more taxing physically (2) for two task roles, the piercer plugger and the piercer operator. Generally speaking, the new continuous process jobs were perceived as being mentally more difficult (2) and physically easier (2) than the comparable jobs in the old mills. With the mill rolling at a satisfactory rate, so that both production and earnings were high, pressure was lightened (2) and there was less interpersonal tension between supervisors and crew (6b). The continued exclusion of the crew from production decisions, however -- in which the workers felt competent -- resulted in resentment (6b) and dissatisfaction with opportunities to use existing competence (5b). Smoke was not eliminated from the environment, which overshadowed all of the previous improvements in environment and resulted in highly negative feelings toward the physical work environment (6a). As a result of lower job classifications, smaller crews, and fewer jobs than in the old mills, workers' feelings toward the possibility of future promotion were more negative than before (9). Foreman positions now seemed to require college education, which resulted in feelings among crew members that they had no chance of being promoted (9). Increasing tonnage per man continued to overshadow pay and resulted in feelings of job insecurity (3).

Walker, C.R.; Guest, R.H.; and Turner, A.N. The Foreman on the Assembly Line. Cambridge: Harvard University Press, 1956. 196 pp.

This book is a sequel to the author's earlier book, The Man on the Assembly Line. Like its predecessor, it uses observation and interviews to obtain data. The mass-production foreman is the object of the study, conducted in Plant X, an automobile assembly plant. The authors surveyed such aspects of the foreman's work as the average time he spends in various operations, his own conception of the job, his relationship to management and to the men who work under him, his ambitions, and his methods of work. Much of the book consists of foremen's own statements in response to the interviewer.

As perceived by the foremen, the moving line was associated with controlling the man and his speed (7). Therefore, new assembly workers tended to experience excessive fatigue from unused muscles, as well as nervous tension (2). Furthermore, being a foreman was associated with feeling that informal personal relationships between themselves and the line workers were important (6b). This human relations supervisory approach was associated with having friendly relations with the line workers outside of work (10). The foremen were also associated with perceiving that the teaching (5a) and promotion (9) of their men was one of their functions. Being a good foreman, as perceived by the foremen, was associated with absorbing pressure (2) as well as consulting with one's workers and delegating responsibility to them (7).

The tension and pressure on assembly-line workers (2), along with the highly repetitive nature of their jobs, the conveyor pacing, and the frequent requirement for excessive overtime, were associated with increased absenteeism (1). Also, the assembly line was found to be negatively associated with team or partnership relationships (6b). Finally, sharp rises and dips in the production schedules were associated with a rise in turnover, absenteeism, and grievances (1).

Interpersonal relationships between the foremen and the workers (6b) were associated with increasing the workers' interest in the quality of the product (8). Foremen were also associated with believing that "our practical experience could be utilized much more when engineering changes were being considered" (5b). Foreman were also associated with spending 4 percent of their time involved in personal, non-job-related interactions (6b) and 1 percent of their time showing line workers what to do (5a;7).

The study followed, through interviews, the development of a man from line worker to foreman. Despite the fact that wet sanders (the subject's position on the line) were associated with feeling a sense of cohesion as a group (6b) and pride in doing a good job together (4), they were also associated with thinking that the job was monotonous (5): their families tended to think that they

The Foreman on the Assembly Line
(Continued)

were "grouchy" after work (11). Wet sanders were also associated with feeling satisfied about their pay and job security (3). Oil sanders were associated with setting their own pace (7); however, they thought their chances for promotion were poor (9). The subject, as a utility man, had much more responsibility (7) and was throughly familiar with all of the jobs on the line (5a). Finally, as a foreman, he was associated with listening to his workers' complaints in order to understand how he might help them (7).

The assembly line technology was associated with fatigue on the part of the foreman (2) due to excessive discontinuity and interruption. Also, the noise and physical constraint of having to stay in place were associated with less group cohesion (6b). Finally, foremen were associated with perceiving themselves as having to play dual roles: they had to be group members (6b) as well as and leaders (7).

5049

Wedderburn, Dorothy, and Crompton, R. Worker Attitudes and Technology. Cambridge: Cambridge University Press, 1972, 176 pp.

An interview survey of 5 percent of male workers in three continuous-process plants in northwest England was undertaken to study the effects of technological differences on employee perceptions of various work-related aspects. All plants were located on the same site and owned by the same company. "Plant A" was the smallest and produced liquids and gases. "Plant B" was middle-sized and operated, with many unscheduled stoppages, to produce solid and granular output. "Plant C" was the largest, operated on short batch cycles, and produced granular and filament output.

The original survey showed that the best things about working for the company were security (3).good physical working conditions (6a), fringes, and welfare (3). For craftsmen, feelings of security (3) were related to the company's need for scarce skills; for general workers, security was related to the company's position in the industry. The worst things about working for the company were bad management (6b) and feelings of regimentation (5). Craftsmen criticized supervisory discipline (7) and lack of autonomy (7) and had more definite ideas on more topics than general workers.

Among general workers in the three plants, the major differences in attitudes toward supervision (6b) and work task (5) were found between the pure process plant (plant A) and chemical process jobs in all plants (more favorable attitudes in both instances) and the batch plant (plant C) and machine operating jobs in all plants (less favorable attitudes in both instances). Plant B and material handling jobs in all plants fell somewhere in the middle on those attitudes. Perceptions of a cooperative plant climate (6b) were more marked in plant A, whereas in plant C perceptions of conflictual plant climate (6b) dominated. Attitudes and perceptions about supervision differed greatly with type of job. Chemical process workers described their supervisors as having enough authority (7) and as men they could get along with (6b); machine operators scored their supervisors far lower on these dimensions. Once again, materials handlers fell in between. Absenteeism (1) was highest for the machine operator group with the lowest amount of job interest (5).

A comparison between process workers in plant A and process workers in the other plants revealed higher scores for the former group on job interest (5), autonomy (7), good supervision (6b), and plant cooperation (6b). A comparison between machine operators in plant C and machine operators in the other plants showed no such differences on the same measures except for a lower score on plant cooperation by plant C employees. The explanation for these findings rests at least in part with specific technological differences between the plants and in the resulting characteristics of the jobs. Plant C general workers were found to be younger and higher paid, and more were buying their own homes than general workers in plants A and B. It is noted that the trade-off of lower

Worker Attitudes and Technology
(Continued)

pay (3) for interesting work (5) seems accepted by the older, less financially- burdened workers in plant A; whereas men in plant C, although satisfied with their higher pay (3), were not thereby less critical of their less interesting work (5). Although they had very similar technologies and technical changes, Plants A and B differed on job interest (5), quality of supervision (6b;7), and sense of security (3), with plant A higher in all dimensions. It is speculated that concurrent changes in supervision in plant B did not enhance the technically-related work experience in that case. Differences between the two plants on perception of a cooperative spirit (6b) were paralleled by required senior management participation in affairs on the shop floor (6b) in plant A, which was argued to be more a function of technology than of organizational size.

Wieland, George F., and Leigh, Hilary, editors. Changing Hospitals.
London: Tavistock Publications, 1971. 499 pp.

Results of an action research change project carried out over four years in 10 London hospitals were the subject of a study employing questionnaires, interviews, and documents and records of the organizations involved. The project, the Hospital Internal Communications Project (H.I.C.) implemented a unique design which enabled each hospital to involve its own staff in devising and executing projects related to their own interests and perceived problems. For each hospital, this consisted of a "supporting" team drawn from senior members of the medical, nursing, and administrative branches (e.g., consultants, matrons, and hospital group secretaries) and an "operational" team composed of their deputies.

Both teams initially attended courses on organizational theory and research methods and subsequently were able to call upon a central team of social scientists for assistance with survey techniques, data collection, evaluation, and report writing. The central team played an essential role in coordinating inter-team meetings and encouraging feedback activities within and between hospitals.

Involvement in H.I.C. project activities did not seem to have reduced turnover or absence rates among the staff groups studied (1) to any major extent. Involvement in H.I.C. project activities was associated with individuals perceiving themselves as well as their staff members as having more knowledge and information concerning hospital functioning and problems (5a) but was not associated with an increase in influence over the work of close associates or the functioning of the hospital generally (7). Involvement in project activities was also associated with some increases in communication behavior (6b), with nurses experiencing the greatest increase, followed by administrators and, lastly, doctors.

Perceived usefulness of the organizational theory courses (H.I.C., management, interdisciplinary, and residential) was weakly related to an increase in information and knowledge (5a). Perceived usefulness of the Central Team (research team) was strongly related to cooperative problem solving (6b; 5b) and weakly related to feelings of increased influence (7). Perceived usefulness of team meetings was strongly related to cooperative problem solving (5b; 6b) and weakly related to improved understanding among individuals (6b).

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Changing Hospitals
(Continued)

Hospital project participation by hospital team members (7) was strongly related to improved communication "to an individual" (6b) and weakly related to increased information and knowledge (5a), feelings of increased influence (7), and better understanding among individuals (6b). Central-team influence on hospital projects (7) was weakly related to co-operative problem solving (5b; 6b). Influence of other hospital staff on hospital projects (7) was strongly related to cooperative problem-solving (5b) and feelings of increased influence (7), and weakly related to better understanding among individuals (6b).

Being hospital team members whose jobs became part of H.I.C. was strongly related to cooperative problem-solving (5b; 6b) and weakly related to improved information and knowledge (5a), feelings of increased influence (7), and improved communication to and from an individual (6b), as well as better understanding among individuals (6b).

Central team activities of training, change consultation,and diagnostic consultation were all positively associated with cooperative problem-solving (5b; 6b), although diagnostic consultation was weak in this relationship. Feedback meeting activity and attendance had a weak relationship with better understanding among individuals (6b). Feelings of increased influence (7) and improved information (5a) had a strong relationship to feedback meeting activity and attendance (8).

Improved communication to others (6b) was positively associated with attendance at the London School of Hygiene meetings (8).

5051

Woodward, Joan. Industrial Organization: Theory and Practice.
London: Oxford University Press, 1965. 281 pp.

A team of social scientists, headed by Joan Woodward, surveyed a sample of 100 manufacturing firms in South Essex, England. The survey was carried out between September, 1954 and September, 1955. The firms ranged in size from 11 to approximately 40,000 employees. All of the data were collected by observation and open-ended questionnaires.

In the preliminary findings, the size of the organization was not found to be related to organizational structure or behavior. After an itemized scale of technological sophistication was developed, however, the study revealed many relationships between the technology used and organizational structure and behavior.

Unit and small batch production were classified as the least sophisticated technologically; continuous process was classified as most sophisticated. Large batch or mass production was the intermediary classification. The technological level was also associated with the role of the manager. Continuous process was found to be positively associated with "management by committee" (7). Also, the span of control of the chief executive (7) was found to increase as the technology used increased in sophistication. On the other hand, the span of control of the middle-managers (7) decreased as technological sophistication increased. Other findings revealed that organizations that utilized a continuous-process technology tended to have systematic management training courses (5a) and to fill management positions from within (9).

The research also revealed similarities in structure and behavior within companies that utilized technologies at both ends of the technology scale, in contrast to the companies that utilized a large batch- or mass-production technology. In unit as well as continuous process firms, interpersonal relations were intimate and informal (6b), in comparison to interpersonal relations in firms that utilized mass production. In mass-production firms, first-line supervisors had the greatest span of control (7). The unit and continuous process firms also employed the most skilled workers, which developed a close identification with the immediate production process (8). In continuous process firms, however, the skilled workers received little status and prestige outside of the company. Generally, the unit and continuous-process firms were associated with "organic management." These were flexible organizations with a high degree of delegation of both the authority (7) and the responsibility (7) of decision-making, as well as permissive and participative management (7). Mass-production firms were found to be associated with "mechanistic management" (7). Here, the organization was characterized by clear line-staff distinctions. In continuous process, the status and prestige of the specialists (4) was so high that it was

Industrial Organization: Theory and Practice
(Continued)

impossible, in practice, to distinguish between advice, service, and control, on the one hand, and executive responsibility on the other (7). In this respect, the line and staff become interchangeable in regard to promotion (9).

Additional findings revealed that mass production was associated with supervisory control of the production process (7), written communication procedures (6b), and greater stress and pressure (2) in regard to inter-managerial relations and employer-employee relations (6b). On the other hand, unit and continuous-process firms were found to be associated with supervisory administration of the production process (7), oral communication (6b), and lack of stress and pressure in interpersonal relations.

When technological change had occurred in any of the firms, there was a total lack of resistence: the employees took pride in the fact that their organization was technologically up-to-date (8), and they did not see the change as a threat to their job security (3). Organizations that changed in structure, however, from a departmentalized or "functional" kind of structure to a divisionalized organization (the creation of a series of relatively small autonomous units at the periphery of the organization) tended to undergo a change in the power relations; namely, an increase in line authority developed at the expense of staff authority (7).

SECTION C

Unpublished Books, Articles, and Case Studies

Burden, D.W.E. "A Participative Approach to Management" (April, 1972). Unpublished. Available from Mr. D.W.E. Burden, Shell U.K. Limited, Shell Centre, London, SE1-7NA, England.

Observations and records report the progress over four years (1966-1969) in a change toward an autonomous group structure in the Microwax Department of the large Shell Stanlow Refinery in Great Britain. The department employed operators (N = 32), senior operators, and shift foremen over three shifts.

Several changes in the employees' jobs were undertaken following an initial period of meetings with the department employees and the manager.

Two years of weekly department meetings were required before full participation was achieved. Jobs were organized such that each operator had a complete unit to control, and was encouraged to learn to operate each of the four types of units. This knowledge and flexibility qualified the operators for promotion (9). The flexibility also resulted in experienced operators helping (to train) the less experienced as well as others on their shift (6b). Operators also were encouraged to further their education in outside courses allied to plant operation (6b), which increased promotion chances (9). Promotion rates increased from 15 percent prechange, to 115 percent after four years.

Time clocks were abolished making shifts themselves the regulator, which resulted in cooperation between shifts (6b) and greater operator freedom to adapt his schedule to fit his social life (10;11). Vacation schedules were left to the senior operators. This flexibility in scheduling, it was felt, was responsible for the reduction in absence rates (1) which fell below the prechange rates, and below the refinery rates as a whole.

Reporting systems for production figures was designed by the total department. Operators came to understand the meaning of the figures (5a) and could determine their own results (4). Senior operators were given authority to exercise judgment in using these production figures in controlling work (7). Senior operators and day foremen were encouraged to generate ideas (5b) to improve the plant and the department (6a) and to design the new systems in collaboration with refinery staff personnel (6b).

Burke, Ronald J. "Quality of Organizational Life: The Effects of Personnel Job Transfer" (April, 1972). Unpublished. Available from Ronald J. Burke, Associate Professor, Faculty of Administrative Studies, York University, 4700 Keele Street, Downsview 463, Ontario, Canada.

This paper reports an assessment of a department's internal actions in the area of employee job transfer using a questionnaire survey. The respondents were 39 engineers and their wives, representing about a 70 percent response rate. All engineers were employeed full-time in the same large government agency. Husbands and wives completed questionnaires separately.

The results of the assessment indicated some concrete problems in the area of job transfer in this organization. Large proportions of the respondents (male engineers) expressed dissatisfaction with the types of transfers, and the process underlying the transfer decision. Feeling a lack of participation (7) in the transfer decision, and seeing no link between the transfer and the individuals' own career development (9) were the most important issues in this regard. In addition, job transfers interfered with ongoing social systems and created problems of adjustment in the new communities (10c). Data from the engineer's wives (11) revealed similar community disruptions. Finally, the sheer number of job transfers presented a hardship. Approximately 30 percent of the couples were transferred annually. In general, these data suggested that the internal practices of the department in the area of job transfer would receive a low rating. The audit of these practices revealed a number of harmful consequences.

8002

Chevalier, G. G. "Socio-Technical Experiment at Casting Center 43" (April, 1972). Unpublished. Available from G. G. Chevalier, Aluminum Company of Canada, Ltd., Arvida, P. Q., Canada.

A 13-month socio-technical experiment was conducted at the Direct Chill Casting Center 43, part of the Casting Division located at Arvida, Quebec. The experiment was completed in November, 1971.

In 1967-1968 Casting Plant 4 was having a major problem of trying to improve manpower productivity under conditions of widely fluctuating production loads, with consequent effects of continually changing crew organizations and a situation in which the foreman had to supervise crews fluctuating from 25 to over 40 men per shift in an area nearly as big as Casting Plant 3 and Casting Plant 2 combined. The number of production units varied from two Direct Chill to four Direct Chill units, plus pigging center, hardeners center, and a straightline casting machine. The net effect of these problems was that the foremen spent their entire time trying to deal with crises while the general foreman was trying to plan the work under conditions of extreme pressure from outside and inside the department.

In the winter of 1968-1969 the preliminary work for the socio-technical experiment was initiated and two objectives were defined. The first one was to try and organize crews in such a way that the formen's workload could be reduced; in other words, to try and make the crew more self-sufficient (6b;7) so that the foremen could look after boundary problems. The second objective was that the crew reorganization should be such that the men and crews could evolve to meet forecasted technological changes. The experiment was carried out with the agreement of the employees, their union, and the local management, beginning in September, 1970.

Both objectives of the experiment were fulfilled; furthermore, production was increased by 7 percent and unit cost reduced by 11 percent.

To Alcan and to hourly-paid employees the experiment was a success; however, the union did not agree to extend the work past the 13-month period.

8003

Crockett, William J. "The Organizational Development Program in the Saga Administrative Corporation" (April, 1972). Unpublished. Available from William J. Crockett, Vice President, Human Relations, Saga Administrative Division, One Saga Lane, Menlo Park, California 94025.

The purpose of this program is to develop a management style throughout the company (1,000 managers in almost 500 locations) that will enhance the emotional security of people at all levels so that there will be: more openness, more feedback, more sharing, less competition and more collaboration, more innovation and entrepreneurship, and more genuine participation. In summary, develop a style of management that treats people in their working environment so that the climate of that environment is exciting, challenging, and fulfilling.

The hypothesis: the whole managerial concept of the past and present deals with people in one dimension, i.e., intellectual and physical skills in getting the task done--overlooking the deep impact of human emotions upon behavior.

Our thesis is a manager must understand each of his subordinates as being a unique individual, with individual needs. Then he must meet these deep, human, personalized needs (for influence, belonging, feedback, help, etc.).

One way we have tried to achieve this is by developing boss/subordinate teams at all levels. Here we try to create new working norms built around the concepts of mutual care (4), mutual help (6b), collaboration (6b), feedback, honesty in communications, facing up to conflict, and participative management (7).

Results: for the past year we have had Drossler Research Corporation of San Francisco conducting an external review of all of our management to ascertain as objectively as possible what the results of this four-year endeavor actually add up to.

Culbert, Samuel A. "Producing Increased Worker Self-Management Through Consciousness Raising and Training in 'Statesman-like' Thinking" (April, 1972). Unpublished. Available from Samuel A. Culbert, Assistant Professor, Graduate School of Management, University of California, Los Angeles, Los Angeles, California 90024.

This abstract summarizes an in-process industrial experiment. Formulated as part of a company-wide OD program, its use of political change processes distinguishes it from most OD programs. The experiment involves professional workers in increasing their ability to be self-managing and adding to their skills in influencing organization policies and practices.

The experiment uses consciousness-raising techniques to increase workers' awareness about organization forces influencing their behavior. Forces are mapped within the many domains of organization influence: organization philosophy, personnel policies and practices, etc. At an early point workers realized that the influence range of organization forces extended to their families and a decision was made to include wives (11) in subsequent activities.

The group, workers, and wives, receives training in how to use inconsistencies between organizational assumptions and their own experience as learning vehicles for understanding organizational systems in operation. Relating incoherences to organizational systems is conceptualized as an exercise in "statesman-like" thinking. This thinking helps workers transcend the situational blindness produced when relating to one's experience only on a personal level. Eventually the group interacts with organization policy makers or high-level managers with the objective of using their experience and systems realizations in raising management's awareness about the dysfunctional consequences produced by existing policies and practices. The group's new systems orientation directs them to resist paternalistic inclinations by management to respond to problem statements with understanding (5b) and/or promises to adapt present practices. Rather, the group's strategy involves engaging policy makers in a frank discussion (6b) of the assumptions they make and the forces they experience when formulating imperfect policies. The hoped-for goals of this process are changes which increasingly come closer to fundamental improvement than to adaptations which again blind personnel to weaknesses in the current system.

8005

Davis, Claude. "Manufacturing of the Pageboy II" (June, 1972). Unpublished. Available from Claude Davis, Group Operations Manager, Motorola Communications Division, 1301 East Algonquin Road, Schaumburg, Illinois.

The Pageboy II is a complex radio receiver small enough to be carried in a shirt pocket. With it a person anywhere in a major metropolitan area can be selectively alerted and given a voice message. This type of unit was previously manufactured by women inserters on a mass production line interspersed with a number of inspectors and testers. As in the case with most assembly line techniques, no single individual had an awareness of the function of the product, and many had no idea what a completed product looked like. The work was tedious and boring and, because of this, the error rate did not meet the high standards which a consumer would expect of a product costing $300.00 or more.

The Pageboy II incorporated a number of new electronic techniques such as integrated circuits and hybrid thick films resulting in a significant reduction in the number of parts compared with earlier models. A new production process was established wherein one person could assemble an entire radio and, when it was completed, test it, pack it, and send it to the customer with little or no intercession from inspectors, testers, or supervision.

The intent was fundamentally to attract a higher level of employee and to improve quality, but without increasing the cost. The employee became personally identified (4) with each radio and, in fact, signed a statement to this effect, which was transmitted to the customer. The principal has now been in operation for over a year. Quality levels appear to be improved, costs are actually lower. A most marked improvement noted, however, is in the attitude of the assemblers,in absenteeism,and in turnover (1), all of which are improved over other methods.

8006

Engelstad, Per. "Abstract of the Hunsfos Case of the Norwegian Industrial Democracy Project" (April, 1972). Unpublished. Available from Per Engelstad, Work Research Institutes, Gydas Vei 8, P. O. Box 5387, Oslo 3, Norway.

The Industrial Democracy Project in Norway is a long-term action research program sponsored jointly by the Trade Union Council and the Confederation of Employers. The process of social change reported in this study has been going on since 1964 at the Hunsfos Paper Mills. The company, representing an integrated pulp and paper technology, was selected, after declaring their willingness to try out new principles of job design.

The purpose of this research program was to show by demonstration that the quality of working life, which in most sections of industry is still characterized by traditional forms of dominance and subordination, could in fact be substantially improved without disturbing the productive aims. This fundamental contradiction in the production process could, however, only be resolved if one were able to change the very techniques of production. This means also that those concepts which are tied to the use of machines and equipment, must allow for operator interest, discretion, decision making, learning and creativity.

The first objective at Hunsfos, was to test out how far the new principles of job design could be applied under those constraints that were specific to process technology, where the major content of operator tasks were concerned with information handling and communication. In designing our research we assumed

- that the initial experiment be located in a naturally bounded work area, where local management--and union--leadership were strong,
- that the total rate of change be maximized by making many small steps which the parties involved could oversee and control rather than a few big ones that would inevitably enhance anxiety and resistance,
- that concrete demonstration be the most effective way of communicating the existence of an alternative job design particularly to the workers.

The second objective was to see that the results of the initial experiment, if successful, would spread throughout the company.

"Abstract of the Hunsfos Case of the Norwegian Industrial Democracy Project"
(Continued)

At Hunsfos our socio-technical analysis identified the chemical pulp department as the optimum location for an initial experiment which, if successful, would exert maximum leverage on the total system. Accordingly the process of change must be evaluated both as short-term results on department level and as long-term effects where the local experiment as a whole does or does not trigger off consecutive activities in other part-systems and/or at higher system levels.

Short-term effects were measured in accordance with the specific characteristics of the system redesign. Thus increased operator control (7) over the production process measured by improved pulp quality were, after being checked against any undue use of material resources, related to new modes of working adopted by the operating teams. Interviews with workers and managers at specific points during the experiment disclosed their perceptions of the changes introduced and the still prevailing constraints imposed by the traditional system.

After some discussion the management and the union decided to carry out a second experiment in a paper-machine department, where the conditions would allow the men themselves to take over most of the supervisory tasks on shifts (7). The overall growth in local initiative with respect to project activities is indicated by the withdrawn and purely consultative position of the research team during this experiment.

This experiment was followed by intensive discussions in the management and the union, which lasted almost one year. The result being a joint decision to introduce the new principles of job design in all production departments during the period 1972-74. Emerging changes have reduced the number of levels in the formal hierarchy and extended the areas of managerial responsibility along the production processes (7). The changes correspond to requirements of the technology as well as the needs of the groups of men operating this technology.

Farris, George F. "Congruency of Scientists' Motives with Their Organizations' Provisions for Satisfying Them: Its Relationship to Motivation, Affective Job Experiences, Styles of Work, and Performance" (April, 1972). Unpublished. Available from George F. Farris, Alfred P. Sloan School of Management, Massachusetts Institute of Technology, 50 Memorial Drive, Cambridge, Massachusetts 02139.

Some students of organization have argued that the central problem in managing an organization is to integrate individual and organizational goals. Others have argued that individual and organizational goals are inevitably at odds with one another. The present study investigated relationships between congruency -- which was operationally defined as the difference between the strength of an individual's motive and his organization's provision for satisfying it -- and motivation, certain affective job experiences, styles of work, and performance.

This study of 552 professionals in eleven organizations found that about two-thirds of the participants reported a lack of congruence between their goals and the provision for satisfying them in their organizations. Moreover, lower congruence (8) occurred at lower levels in the organizations, and was associated with lower involvement in the job and lower professional output. Thus "goal congruence" appears to be one useful approach to studying the quality of working life. It is an organizational factor systematically related to other important organizational variables.

8008

Farris, George F. "A Predictive Study of Turnover" (April, 1972). Unpublished. Available from George F. Farris, Alfred P. Sloan School of Management, Massachusetts Institute of Technology, 50 Memorial Drive, Cambridge, Massachusetts 02139.

A study of 395 scientists from two organizations indicated that turnover can be predicted by means of an anonymous questionnaire completed while the person is still employed. A general model predicting turnover on the basis of individual orientations and characteristics, inclusion, job factors, group cohesiveness, involvement, rewards, performance, and opinion about leaving was partially supported by the findings, especially when applied to high performers. Factors most strongly associated with subsequent turnover (1) included the feeling that it would help the person's career (9), low provisions for rewarding performance (4), and lower age and technical maturity. Longer working hours, higher income, and more contacts and reference groups outside the organization (10c) tended to associate both with high performers remaining and low performers leaving their organizations.

8009

Farris, George F., and Butterfield, D. Anthony. "Goal Congruence in Brazilian Organizations" (April, 1972). Unpublished. Available from George F. Farris or D. Anthony Butterfield, Alfred P. Sloan School of Management, Massachusetts Institute of Technology, 50 Memorial Drive, Cambridge, Massachusetts 02139.

A study of 189 professionals in 13 Brazilian financial institutions sought to apply United States derived organization theory and methodology concerning congruence between individual and organizational goals. A substantial lack of congruence (8) was found, with congruence greater for higher organizational levels. Congruence was positively associated with involvement in work (8), and negatively associated with propensity to leave (1) the organization. Relationships were stronger for some goals (e.g., self-actualization and status) than others (e.g., competent supervision and working on relevant problems). Results of the study indicate that questionnaire methodology is suitable for studying professionals in Brazilian organizations, and that goal congruence theory holds in Brazil as it does in the United States.

8010

Fleagle, George P. "An Experiment in Organization Development" (April, 1972). Unpublished. Available from George P. Fleagle, Director, Management Development, Western Union, Employee Relations Department, 60 Hudson Street, New York, New York 10013.

The Western Union Telegraph Company's three years experience with the Organization Development Laboratory designed by R. B. Morton of Sacramento, California was the subject of an ongoing empirical study. Laboratory sessions utilized J. B. Rotter's social learning theory and George Kelley's personal construct theory. Quantitative evaluation covered 200 of 1,300 participants on individual factors. Additional study of 800 participants covered group changes in generalized attitudes toward company.

Results indicated that 72 percent of participants perceived significant individual change in behavior and attitude and that these changes have persisted over the three-year period covered by study. Also, and most significantly, there were indications that when the immediate environment was perceived to be supportive, individuals regenerated new behavior that had been previously withdrawn.

The Organization Development Laboratory experience indicates improved quality of working life by providing participants with concepts and methods for developing new behavior appropriate to here-and-now situations, specifically those involving confrontation of issues blocking achievement of superordinate goals (5b).

Additional hypotheses being tested in 1972 involve assumptions made from data relative to Herzberg job enriching theory regarding compatibility and mutual enhancement of both approaches: Organizational Development Labs provide concepts and methods for changing behavior; job enrichment provides work that is supportive to ongoing validation of the new behavior's value to the individual's reward system. The converse relationship is also assumed.

The study offers first indications that new behaviors endure over long periods of time and can be regenerated if previously withdrawn. Also, the combination of approaches should improve quality of working life by allowing the individual to adopt appropriate behaviors and by providing in the work itself the opportunity for self-direction (7) and satisfaction.

8011

Fleishman, E. A. "Twenty Years of Consideration and Structure." Paper presented at the Southern Illinois University Centennial Event Symposium "Contempory Development in the Study of Leadership," April 29-30, 1971.

In a reanalysis of some earlier data, the author tested the notion of curvilinear relationships between supervisory activities and grievances and turnover. The findings indicate that for quite a range of consideration behavior on the part of supervisors, there is no relation with employee grievances or turnover (1). When supervisory consideration reduces beyond a certain point, both grievances and turnover (1) rise markedly. Also, only when supervisory initiating structure is found to great degree does one find that grievances or turnover (1) rise. Further, grievances occur most frequently among groups whose foremen are low in consideration, regardless of the amount of their emphasis on structure. High consideration foremen, on the other hand, are shown to be able to increase emphasis on structure without any appreciable increase in grievances.

Frohman, Mark. "Small Team Production System (STPS)" (April, 1972). Unpublished. Available from Mark Frohman, R. G. Barry Corporation, 78 East Chestnut Street, Columbus, Ohio 43215.

Background: R. G. Barry operates a number of plants producing sewn footwear in four different states. The production process was typical of the cut and sew industry: single operations, engineered methods and standards, 100 percent inspections of work-in-process, individual piece rates. Corporate and Division Management had for two years been experimenting with a more participative style of management. Plant management at the Columbus slipper manufacturing plant employing approximately 350 people determined to extend the participative idea to production associates.

Purpose/Objectives: Their purpose in utilizing a team approach to reorganize the production process was to create conditions where the following would result:

1) Improve productivity, quality

2) Reduce unit manufactured costs

3) Improve attendance, reduce replacement turnover

4) Stimulate new ideas

Strategy/Methods: Their basic strategy was to restructure the production process to enable small teams of people to assemble and package a completed product; to organize in such a way that the team inputs and outputs--rather than individual inputs and outputs--would be the basic building block. Emphasis was placed on team goal setting and problem solving. Detailed production information and cost information was supplied to the teams. Each team became responsible for the quality of the product they produced. Teams had greater influence on work methods, layout and schedules (7). New material handling equipment, new scheduling procedures were installed; time clocks were removed and the individual piece rate was replaced by a straight wage with periodic performance reviews.

Results/Conclusions: During the first twelve months of the conversion, no appreciable reduction of unit manufactured cost was in evidence; however, quality improved significantly and attendance improved (1).

The investment necessary to effect this change was considerably larger than had been anticipated and the period of time required

"Small Team Production System (STPS)"
(Continued)

to realize the return of the investment was considerably longer than anticipated. The results to date, however, have demonstrated that the return on the investment has been excellent.

As measured against the objectives, unit manufactured cost has decreased (even though wages have been increased substantially); quality is improved; the absentee rate is less than 3 percent; replacement turnover has improved (but may be a result of the general employment picture rather than the team process); although some new ideas have emerged, much more work in the area of supervisory skill development is required to achieve this objective.

Gardell, Bertil. "Production Technology, Alienation, and Mental Health."
Unpublished. Stockholm: PA Council, 1971, 391 pp.

Correlations among discretion and skill level (a combined measure), income, wage payment method, and physical environment, alienation, job satisfaction, and mental health were studied for male workers and males compared with females in several Swedish plants representing two technologies of mass production and continuous process. Discretion and skill level were measured by independent judges; job satisfaction,alienation,and mental health were measured with questionnaires.

In the mass production industry, low levels of discretion (7) and skill (5b) were found; these low levels were associated with physical strain (2) and piece rates (3). Men were usually found in these low-discretion- and skill-level jobs. No correlations were found between discretion and skill level and either income or age.

In both mass production and continuous process, the higher the discretion and skill level, the lower the alienation (1). In mass production, high-skill tasks are also less mentally strenuous (2), more independent (7), and less socially isolating (6b). In continuous process, these jobs were seen as more mentally strenuous (2). Monotony was found to be positively correlated with job satisfaction and with acceptance of the job and the firm (8). A higher degree of alienation (1) was expressed by workers who had a non-considerate supervisor than by those who had a considerate supervisor. It was also found that perception of interesting work were related to job satisfaction.

Workers paid by piece rate rather than on an hourly basis are found to be more alienated (1) and see their jobs as more mentally strenuous (2).

Workers with low discretion and skill levels and low income score lower on life satisfaction and self-esteem (4) and report more anxiety (2). Workers with higher alienation (1) report poorer mental health in general (2).

Use of a specific mechanization scale reveals that greater social system and machine control of worker behavior was related to higher alienation (1) and lower mental health (2), whereas automation was linked to higher self-esteem (4) and mental health (2).

Desire for greater influence over one's work (7) is stronger and more widespread than the desire to exercise personal control over the firm's management (7), although a widespread desire to have employees as a group exercise greater control over the firm exists. This last finding is more true of continuous process than mass production industries and more true when the discretion and skill level is higher and the job is considered interesting.

Gulowson, Jon. "Norsk Hydro" (April, 1972). Unpublished. Available from Jon Gulowson, Work Research Institutes, Gydas Vei 8, P. O. Box 5387, Oslo 3, Norway.

Purpose

In 1967, the Norsk Hydro Chemical Fertilizer Plant and the corresponding labor union started a participation project. The goal of this project was to find new ways of work and participation in order to make work more meaningful, life richer, and work places more secure.

The initial project which included starting up a new factory had the character of an action research project:

- It was an experiment in socio-technical design based on values which were explicated by the major involved parties and the theoretical knowledge of the research group
- It was meant to be an object of demonstration within the organization
- It was expected to become a growing point for social diffusion
- It was never the goal to test hypotheses

Research Workers' Roles and Methods

The research workers participated in the project through a local action committee and through other power channels within the organization. The data collection procedure was built up in order to be able to describe the development of the design and change of the social system.

Central variables were: worker satisfaction and attitude toward management (a series of open interviews with 22 fixed items), worker competence, labor turnover, work group structure, and productivity (5 variables). In addition the researchers kept a log book on important incidents of the development.

Results

After four years, worker satisfaction is relatively high, though the general feeling is that the company has gained much, the workers little, by the increase in participation. Workers' influence in critical decisions has not been significantly changed (7).

"Norsk Hydro"
(Continued)

The company has been unwilling to reduce supervision and make changes in the formal organization in spite of a significant increase in worker competence. The majority of the workers master all blue-collar skills (5) in the factory.

The productivity has gradually increased, and down time in the process has become less than half. Thus normal workload has been reduced. Since on-the-job training has become less of an incentive, and the workers have not been permitted to take on supervisory tasks, it is not surprising that monotony has become a problem. The previously insignificant labor turnover (1) is growing, however, not rapidly.

This demonstrates the technological limitations on social growth within an unchanged power structure.

The experiment has demonstrated the conservativeness of large organizations. To the extent that the experimental area has been dependent upon changes in the environment, these changes have only seldom been made. In terms of total system behavior, the environment has forced the experimental system almost back to where it started.

8015

Heller, Frank A. "Research on Skill Utilization, Decision-Making and Job Satisfaction" (April, 1972). Unpublished. Available from Dr. Frank A. Heller, Tavistock Institute of Human Relations, 120 Belsize Lane, London NW3 5BA, England.

In a study of ways in which the decision-making process affects the use an organization makes of currently-available skills of managers in senior positions, a survey questionnaire was administered to 260 senior managers (130 titled "vice president"), employed in 30 manufacturing companies in the United States and United Kingdom.

It is an assumption of the research that an important ingredient of work satisfaction is found in the extent to which a person is able to use his reservoir of skills and the energy provided by his motivation. Skill and drive utilization depend on organizational facilitators, while under-utilization results from organizational obstacles. The decision process (described as degrees of power and influence exerted by people) is seen as facilitating or obstructing skill utilization, but this phenomenon is considerably more subtle than the usual analysis of participation or autonomous work behavior would lead one to suppose.

Since the role and norm prescriptions that influence the pattern of decision-making are set at senior levels of organizational life, the research begins by concentrating its analysis at those levels. Moreover, it is assumed that explanations of socio-technical interactions at the lower levels of the pyramid cannot be adequately understood or permanently changed except by working through the organizational pacemakers at the higher levels.

Within a multivariate, open system framework, the research investigates the interaction between person-centered, situational, structural, and environmental variables with the decision-making process and the amount of skill and job motivation apparently available at the time the research is conducted. Preliminary work on a sample of 12 large United States companies is now published (Heller, Frank A., Managerial Decision Making: A Study of Leadership Styles and Power Sharing Among Senior Managers, Tavistock Publications, 1971.), more detailed results on 18 large United Kingdon companies were collected in 1968-1970, and a further extension of this work is currently proceeding in four Continental countries.

So far, the findings support the hypotheses, which are couched in a contingency theory framework and postulate that: There are "appropriate" patterns of power-sharing and work autonomy (7) that apply to different situational and structural environments such as experience, span of control, job function. Both skill requirements and skill availability are judged differently depending on (a) level, (b) type of decision, and (c) job function.

"Research on Skill Utilization, Decision-Making and Job Satisfaction" (Continued)

These judgements or misjudgements correlate with the extent to which existing skills (5b) are used (via the decision process).

8016

Hoffman, L. Richard, and Goodman, Paul S. "Managerial Career Perspectives and Self Esteem" (April, 1972). Unpublished. Available from L. Richard Hoffman, Professor of Psychology, Graduate School of Business, University of Chicago, 5836 Greenwood Avenue, Chicago, Illinois 60637.

The principal data collected so far were gathered in one company, a major midwest utility, from which a sample of over 200 managers was drawn in a department x levels design, the levels ranging from technical, nonsupervisory positions to the chairman of the board. Most were college graduates, with 10-20 years of service, working in operating divisions of the company. Data on each respondent include: (a) salary, job history (in the company), education, age, seniority, from company records; (b) responses to a standardized questionnaire which included job attitude and personality measures; and (c) responses to a semi-structured interview designed to develop the respondent's phenomenology of himself, his work, and his life in general. Since the study was not designed to test a strong theoretical model, I shall list the questions and related variables of interest on which analyses will be performed:

1. What factors, individual and organizational, seem to promote managerial self-esteem (4)? Are there variations by department and level in such factors?

2. To what extent do individual variables -- rate of job movement, variety of positions held, internal vs. external control, educational type and level, etc. -- interact with organizational factors -- e.g., department, level, organizational climate, to affect managers' choices of organizational factors which determine their feelings of self-esteem or the relationships of such choices to self-esteem?

3. How do attitudes toward work -- work itself, supervision, pay, etc. -- and family relate to feelings of self-esteem? Are the same factors used by respondents with different career histories, different prospects for their organizational futures?

Soon we will have answers to many of these questions as they pertain to this company and this set of managers. The company was especially useful as a first research site since it has been going through a major conversion from traditional utility approaches to its business and its personnel to a more aggressive, market-oriented approach to its business with substantial consequences for its personnel practices.

Iman, Stephen C. "Achieving Change at the D Company" (March, 1972). Unpublished. Available from Stephen C. Iman, Assistant Project Director, Center for Research on the Utilization of Scientific Knowledge, Institute for Social Research, Ann Arbor, Michigan.

This case outlines organization development efforts and outcomes for a family owned, non-unionized manufacturing firm employing about 500 people and located primarily in a small town in the Midwest. In 1967 this Scanlon Plan company hired a full-time organizational development practitioner and contracted with the Institute for Social Research for consulting services of the author and for periodic survey measurements utilizing the Survey of Organizations.

Management results. A melange of organizational development interventions and technologies including training, survey feedback, self-administering team development activities, counseling and consulting had measurable impacts on interpersonal relationships and group processes (6b) among middle and upper managers during early phases.

Production worker results. In subsequent periods, organizational development activities had considerable influence on changes of policy, structure, leadership style and organizational climate at production levels of the firm. An organization-wide decision to implement a "work team concept", resting heavily on the concepts of Rensis Likert, called for monthly problem-solving meetings at production levels. Decisions to place all employees on a salaried basis (3), and policies to link group performance plans to annual salary increments also occurred during this period. Analyses of survey data for seventeen production groups on which longitudinal data was available provide evidence of change in decision-making practices (7), coordination (6b), opportunities to influence, and supervisory style. Additional analyses suggest that implementation of the work team concept was strongly related to changes in Peer Goal Emphasis, Peer Work Facilitation, measures of Group Process (6b), perceptions of group effectiveness; and were positively, but not significantly associated with gains in Peer Support, Motivation, and satisfactions among production employees.

8018

Jacobs, Carl D. "Xerox Case" (April, 1972). Unpublished. Available from Carl D. Jacobs, ISG - Personnel, Educational and Personnel Research, Xerox Corporation, Xerox Square, Rochester, New York 14603.

A job enrichment program, installed in the Chicago Service Branch, was used to change the jobs of technical representatives who service leased equipment. Questionnaire measures were used before, and six months after implementation. Two control branches in Chicago were also measured.

Job changes involved increased discretion (7) over parts, tools, company car repairs; for authorizing their own overtime; for participating in selection and training of new technicians; for determining customer response time, maintenance intervals, and their own working hours. They were also allowed to hold up a machine installation if space, wiring, or appearance were not right. Finally, they participated in writing their own reviews. These changes were associated with lower absenteeism (1), compared with controls.

Author mentions need for continuing management support if program is to continue. Management support can drop if performance is low and focus is placed on short-term solutions.

Janson, Robert. "Synopsis of Final Job Enrichment Report at the Travelers" (April, 1972). Unpublished. Available from Robert Janson, Vice President, Roy W. Walters & Associates, Inc., 60 Glen Avenue, Glen Rock, New Jersey 07452.

Two objectives of the job enrichment pilot study team were to test new approaches for the implementation of output of an Operations Improvement Program, and, at the same time, to improve the quality of work, to reduce absenteeism and turnover through the design of more interesting and meaningful jobs, and to improve the job attitude of the general work force. A system was established to appraise each category for measurement purposes.

The area had to have two similar operations for the purpose of comparison between the experimental and control group, and it needed a progressive management that would be willing to accept changes. We used the keypunch operations at the Data Center and at Woodland Street. The trial started in July, 1970, and was completed in July, 1971. Woodland Street was chosen as the experimental group, while the Data Center remained as a control group (with no job enrichment applications).

The results of the experiment were dramatically greater than our original expectations. Turnover was the only area that did not show improvement, but the Woodland Street turnover ratio at the outset was only 15 percent, a rate far below the home office average. The following chart summarizes the results of the trial.

	Woodland Street (Experimental Group)	Data Center (Control Group)	Difference
Absenteeism Change	24.1%	(29.0%)	53.1%
Turnover Change	(6.4%)	5.1%	(11.5%)
Attitude Improvement	16.5%	.5%	16.0%

The most significant impact the program made was in the effect it had on the organization. One dramatic change was in the behavior and attitude of the group supervisor. Before the experiment, his was the first and only level where basic supervisory functions were performed. All 83 employees reported directly to him. Most of his time was spent reacting and responding to problem situations as they arose. Even casual observation of the unit would indicate that each day was filled with continuing and re-occurring work crises. The supervisor was besieged daily by employees with salary grievances and personal problems.

"Synopsis of Final Job Enrichment Report at the Travelers" (Continued)

As the experiment progressed, work was transferred from the supervisor to the unit leaders, and in some cases, to the operators. The supervisor began re-thinking all his responsibilities. As he worked with the unit leaders, he began to develop feedback systems, to establish work modules, and generally to spearhead the enrichment effort. Instead of supervising the behavior of his subordinates, he began to manage the work itself. There have been no salary complaints in six months, as opposed to the daily complaints prior to the trial.

Before the trial, taped interviews were held with many of the operators. Most were found to be bored with their jobs, frustrated because of procedural and policy requirements, and generally apathetic towards their work. Recent interviews indicate marked improvement. Employees now talk about their work with family and friends, have better feelings because of increased responsibilities, and realize that their jobs are important.

The original list of changes prepared from a brainstorming session of the supervisor and unit leaders contained 73 items. This list was reduced to 25 for implementation, some of which were:

- Keypunch operators have become responsible for their own work. Included in their job is responsibility for scheduling (5) and for meeting those schedules.
- Operators can now correct obvious coding errors. Prior to this trial, they were told to punch information as they saw it. Since they know coding well, it was frustrating for them to punch the wrong codes (5).
- Each operator now corrects her own errors. Previously, the errors came back from the computer and were given to any operator to correct. The new system provides feedback and aids in training.
- Operators now deal directly with clients. Before the trial, work from unidentified sources was given to them in one hour batches. Now an operator has her own customers with full responsibility for those clients' jobs. If there is a problem, the operator, not the supervisor, discusses it with the client. (This approach brings in an aspect of entrepreneurship to the working levels)(5).

8020

Kobayashi, Shigeru. "Motivational Management - It's Exploration in Sony" (July, 1969). Unpublished. Available from Shigeri Kobayashi, Managing Director, Management and Personnel Development, Sony Corporation, Japan.

A number of social innovations were undertaken over a 10 year period in the Sony Transistor Plant in Atsugi, Japan. This plant employs 3,300, 85 percent of whom are teenage girls who do not go on to high school.

An honor system of payment for food in the company cafeteria was first developed to counteract workers' feelings of social inferiority (4). The second development was worker autonomy in the administration of their dormitories and autonomy in recreational activity planning. Elimination of time clocks followed.

In order to control possible variations in worker response to the above plans and to obviate a laissez-faire situation, a plant wide social system based on "cell" structure was initiated. Cells are horizontally linked teams of 2-20 workers. Each cell holds daily meetings, leaders do not hold formal authority, hierarchical distinctions are reduced, and staff personnel substantially reduced in power. Starting with the replacement of staff safety personnel with operatives assigned as cell leaders for these matters who were in contact with their counterparts throughout the plant, the laterally cell linkages (2; 6b; 7) were developed. Other lateral executive and administrative bodies were subsequently formed for dining hall, library, recreation (6a; 10). Work pace and quality are part of the production plan developed by the workers (7) in order to manage instabilities in transistor production. This plan is updated often. Training and work standards manuals are written and updated by workers. Engineers cooperated with the workers in these activities, and increased the workers technical knowledge of the job (5a). These work changes have resulted in self enhancement (5) of team leaders and development of team work (6b) as well.

Lawler, Edward E., III; Hackman, J. Richard; and Kaufman, Stanley. "Effects of Job Redesign: A Field Experiment" (April, 1972). Unpublished. Available from Department of Administrative Sciences, Yale University, New Haven, Connecticut 06520.

Forty telephone operators, 14 working supervisors, and seven supervisors in an office in a middle-sized eastern town were surveyed regarding job characteristics immediately before and six months after a change in operators' jobs.

The job of directory assistance operator was redesigned in order to determine the effects on workers of "job enlargement" programs. The change increased both the amount of variety (5b) in the operators' jobs, and their autonomy (7) to make decisions on their own. However, no change in work motivation, job involvement (8) or growth need satisfaction occurred as a result of the changes; instead, the changes had a significant negative impact on the interpersonal relationships (6b) in the office. After the changes, the older employees reported less satisfaction with the quality of their interpersonal relationships (6b), and those supervisors whose jobs were affected by the changes reported less job security (3) and reduced interpersonal satisfaction (6b). Implications of these findings for the theory of job redesign proposed by Hackman and Lawler (1971) are discussed.

Levy, Seymour. "Managerial Concept Reformation through Group Dynamics Experiences" (April, 1972). Unpublished. Available from Seymour Levy, Consultant, Management and Organization Development, The Pillsbury Company, 608 Second Avenue South, Minneapolis, Minnesota 55402.

The purpose of this study was to assess the meaning and changes in meaning and relationship of a series of key managerial concepts that would be induced by a group dynamics training experience.

The research design included pre and post-tests of a sample of managers who participated in managerial Grid Laboratories. A specially designed semantic differential was developed in which the individuals were asked to rate the following concepts: listening, frankness and openness, group decisions, creativity, conflict, Pillsbury, trusting, and myself.

One group of respondents represented homogeneous business teams and a second group was a group of heterogeneous backgrounds. The hypothesis was proposed that there would be significant changes in concepts due to the laboratory experience and that there would be significantly greater changes experienced by the members of the homogeneous business teams as contrasted with the heterogeneous group.

The experimental results revealed significant changes in the way individual concepts were seen before and after the laboratory experience. In addition, significant changes were found in the relationships among the concepts before and after the laboratory experience; for example, conflict (6b) before the laboratory was seen as very unrelated to the other conflicts and was viewed as affectively bad. Following the laboratory experience most concepts changed or acquired particular semantic dimensions unique to that concept. In addition, the relationship among concepts changed significantly. Now conflict was seen to be closely related to group decision making (6b; 7) and creativity (5a) and was viewed in a much more positive way.

The hypothesis was also supported that greater semantic shifts were found among those individuals that had back-home colleagues participating with them. Thus, homogeneous groups had sharper learning effects than did the less homogeneous groups.

Lytle, William O. "Obstacles to Job and Organization Design in a New Manufacturing Operation: A Case" (July, 1972). Unpublished. Available from William Lytle, 205 Mt. Auburn St., Cambridge, Mass. 02138

Three years prior to this study, a corporation established the beginnings of a manufacturing organization that would eventually produce at high volume a new generation of corporate products: a small, highly-sophisticated, precision-made consumer device. Since then, the author has served as an internal consultant to the management in an attempt to help them explore and use a variety of job and organizational design concepts. Despite this effort, these ideas have had little impact on the two plants that will assemble the new product; they are proceeding into full production with traditional human systems. This paper explores the activities and outcomes of the job design effort, with special emphasis on the reasons for its limited accomplishments.

The author worked with a variety of management and professional personnel through six phases of activity and development: (I) inception-developing interest; (II) broadening the base of support-gaining sponsorship; (III) basic research on job design concepts and the plant technology; (IV) development of hypothetical applications; (V) training of managers and production layout analysis; (VI) training of production supervisors.

The few accomplishments to date are described: enrichment of several hand assembly jobs; some acceptance of the concept of work teams; and many persons interested in trying these concepts in the future. The majority of the many hand assembly jobs as finally designed, however (mostly done by women), are relatively short-cycle and low-skill.

A number of explanations for the limited accomplishments are discussed:

1. The development of the product and its manufactureability demanded the primary attention of both managers and engineers, leaving little time for the exploration of new human systems.

2. Management implicitly chose to avoid the extra risk and stress that innovation in the human area might introduce.

3. Senior management, although sponsoring the effort, was never actively involved in it; support functions were never fully integrated.

4. The rate of growth and the ultimate size and complexity of the organization hindered the effort; education of all personnel became impossible; the organization evolved into a traditional bureaucracy.

5. Since labor costs were relatively low, there was little moti-

"Obstacles to Job and Organization Design in a New Manufacturing
Operation: "A Case"
(Continued)

vation to utilize lower-paid people well; employees themselves exerted no pressure to change the nature of the work.

6. The product design, the assembly processes, the production technology, and the facilities together presented immense barriers.

7. The consultant experienced some difficulties in regard to his own expertise, his roles and his relationships.

8024

McCullough, George E. "The Effect of Environmental Change Caused by Structural Modification in Parts of an Oil Refining Organization" (April, 1972). Unpublished. Available from Mr. George E. McCullough, Rensis Likert Associates, Inc., 630 City Center Building, Ann Arbor, Michigan 48108.

A large refinery of a major oil company has long been progressive in pursuing improvement of its human organization. It has used, from time to time, most of the usual forms: experimental laboratories, personnel training programs, psychological evaluations, outside intensive education, and others. As in so many operations, personnel experiencing such training, either as organizational groups or in stranger labs, return to the same structural setting of their work situation as existed before the development experience and could not implement the recently acquired knowledge. Therefore, little improvement in methods of utilizing the human organization was realized. Rather, the usual result was more efficient techniques for operating under the established mode of management.

In 1968 the refinery, in conjunction with the Institute for Social Research, The University of Michigan, embarked on a longitudinal survey program of causal and satisfaction variables. Over a two-year period only small changes in any of some 18 variables took place. Early in 1970 four sub-divisions within the refinery elected, with management approval, to change their organizational structures (not organization charts). The new structure of the groups would enable them to provide the following: (a) information concerning the overall purpose and specific objectives of the business organization and its place in the overall company and refinery situation; (b) resources to develop and disseminate improved methods of operation; (c) data concerning the achievement of the organization relative to needs, and a means for feedback to the organization; (d) methods of supervision to coordinate these inputs and the operations; and (e) managerial guidance, counselling, and training. It was hypothesized that organizations using a structurally different system of management would be able to satisfy the human needs of the employees and thus become more productive and effective organizations.

These four groups consisted of about 20 percent of the refinery population and included refining, service, and construction operations. The environmental structures of these groups were protected for about a year and a half from the normal on-going management practices of the whole refinery system. These practices are usually perceived as being directive and often counter-productive.

"The Effect of Environmental Change Caused by Structural Modification in Parts of an Oil Refining Organization" (Continued)

Periodic surveys over a four-year period have tracked a variety of variables: organizational context, supervisory and peer relationships (6b), work group functioning (6b), and employee satisfactions. In all cases where organizational and supervisory variables have moved to a more participative (7) stance the work group function variable has also indicated improvement. Attempts to relate improved work group functioning with actual operating results have generally shown a positive correlation, especially with measurements of operating results of hourly personnel.

8025

McCullough, George E. "A New System of Management Implemented at a Plastics Manufacturing Facility" (April, 1972). Unpublished. Available from Mr. George F McCullough, Rensis Likert Associates, Inc., 630 City Center Building, Ann Arbor, Michigan 48108.

An operating division of a major electrical manufacturing company recognized the need for an improved system of human resource management. A new high-strength, high-impact plastic material had been discovered in the laboratory and, in order to develop a suitable manufacturing process safely and economically, and produce a commercial product in the chemical industry, an unusually effective and efficient human organization was required. The objectives of this system of management of the human organization were, therefore, to provide for the human needs of the work force to such a degree that its productivity would be maximized and its need for third-party representation minimized.

To implement the above requirements for this manufacturing organization, management developed a matrix structure consisting of three basic functions: (a) a manufacturing engineering function to provide the technical or professional inputs, (b) a business information function to provide the business or data inputs, and (c) an operations function to utilize the information so provided by the above two functions for optimal manufacturing operations decisions. Personnel reporting to these functions were assigned, as appropriate, to the several operational areas. Only functional supervision at the managerial level was provided. The purposes of managerial personnel were to coordinate, guide, and counsel employees; to measure and communicate operational performance; and to safeguard the assets of the corporation.

After four years of development both the product and the management system were introduced commercially at a new southern Indiana manufacturing facility. Several unusual features of the human organization were incorporated such as (a) only managerial and professional personnel were exempt from the wage-hour law, although all employees were salaried and received the same employee benefits (3); (b) only non-exempt skilled, semi-skilled, and non-skilled personnel were operationally -- no foreman or general foreman was provided, even though the facility operated 24 hours a day, seven days a week (7); and (c) four levels of position classifications were provided based on responsibility levels, each with several progression and merit steps, promotions to higher levels were awarded to the most senior qualified person.

This system of management has now functioned quite successfully for 12 years. The business organization has gained and held a major segment of its market; its facilities have been expanded

"A New System of Management Implemented at a Plastics Manufacturing Facility"
(Continued)

manyfold. The vast majority of its people are deeply involved (8) in the business; no need has been felt for third-party representation. It has not been found necessary to provide a plant security force, as the operating personnel have assumed both internal and external security responsibilities. Both corporate and external measurements -- obtained by interview and survey techniques -- have confirmed these results.

This system of management has produced a highly participative, highly productive organization with excellent attitudinal attributes. Since this pioneering achievement, additional implementations of this management system have been introduced into both new and established organizations with good results.

"Oldsmobile's Action on Absenteeism and Turnover: Control Program Report " (November, 1971). Unpublished. Oldsmobile Division, General Motors.

A task force of the Oldsmobile Auto Division conducted several interview and questionnaire studies to determine the causes of and solutions for the problems of absence and turnover. The studies included interviews with members of first-line supervision, interviews with hourly employees regarded as peer group leaders, interviews with hourly workers having high absenteeism, a study of more than 200 newly-hired hourly workers, and a study of physiological and psychological aspects of hourly jobs.

Study A revealed that foremen saw absenteeism and turnover (1) as stemming from employee family values, marketable job skills, poor selection techniques, too short an orientation, little career future (9), no chance to excel (5b), and frequent job reassignments, which obviated close social relations (6b).

Study B suggested that increased absence (1) and turnover (1) is caused by employees being smarter and having different values than earlier. Drinking and marriage problems were also cited, as was inadequate orientation, onerous entry-level jobs, not doing important work, foremen's behavior and training, and difficulty of getting medical restriction.

Actions taken, based on these two studies, included: a prehire film to discourage unrealistic expectations and thereby perform an initial screening; orientation training aids; a "buddy" system of orientation; resistance to loaning out new hires for the first day's work; more use of workers with medical restrictions, and more valid assignments in these cases. Other activities included group meetings on various topics, additional job design effort, and supervisory contact on a one-to-one basis.

Workers in Study C said absence and turnover (1) is caused by poor working conditions, unwarranted use of discipline, and lack of influence. Their supervisors said the causes were worker youth and inexperience, low qualifications, welfare-state values, medical restrictions, jobs too easy to get. The two groups met together and suggested better orientation and on-the-job training, no loaning out, and additional communication. Absenteeism (1) was virtually zero during this series of four meetings, but it increased when their foremen were rotated.

Study D suggested that after five months on the job, that job was seen as less interesting, requiring less skill, providing less satisfaction, with a foreman who was not as smart as he seemed. These data suggest that employees' initial expectations are too high, although employees who are originally optimistic have lower absenteeism. Employees who were oriented in group settings and trained by an operator with only average performance, who inter-

"Oldsmobile's Action on Absenteeism and Turnover: Control Program Report"
(Continued)

acted little with workmates, who had lower satisfaction with job and supervisor, and who felt underutilized had higher absenteeism (1). High-absence employees (1) had young foremen with little experience.

Study E reports employees' belief in job desirability being related to absence. Jobs characterized as light work, in well-lighted areas, with considerable responsibility, feedback of results, opportunity to "save up time," and interaction with others were termed desirable.

Paul, W. J. "Case Examples of Job Enrichment in Imperial Chemical Industries" (April, 1972). Unpublished. Available from W. J. Paul, North Paul and Associates Limited, 2nd Floor, 49 Queens Gardens, London W2 3AA, England.

Purpose and Methods

To carry out pilot studies of job enrichment on a representative sample of jobs and functions in a large, privately-owned chemical company in Great Britain. Pilot studies were carried out for technical staff in a research department: sales representatives, engineering foremen, process foremen, design engineers, draftsmen, and machine setters. In each case, the pilot study was designed to permit comparison of attitudinal and performance data for experimental and control groups, over a period of one year. In addition the pilot studies were examined as a whole in order to assess:

(a) the appropriateness of a pilot study based program for the institutionalization of the concepts

(b) the implications of broad scale job enrichment on management's role

Major Variables

The major variable in each of the studies was the authority and decision structure (7) of the unit in which the job occurred. Secondary variables include the "psychological" completeness of the work associated with each of the jobs, the role of supervisory staff and ancillary staff (6b), and the nature and frequency of performance feedback.

Results and Conclusions

The results of the pilot studies demonstrated that significant improvements in performance could be obtained and sustained, and that although there were parallel improvements in job attitudes these were not of the same magnitude nor as quickly achieved as those in the performance area. The results also suggested that the application of job enrichment across levels and functions in the organization, produced consistent results, which were in accord with previous findings and that the scope for change was substantially greater than management supposed. Additionally, the studies provided a strong argument for a pilot study based approach to the introduction of the concepts, and demonstrated that in the need for a change in management's role.

Peter, H.W. "The People System of Shell Australia" (1971). Unpublished. Shell Company of Australia, Ltd., Melbourne, Australia.

In a questionnaire survey of more than 2,700 employees in all companies of the Shell Company of Australia, Ltd., hierarchy (management, technical staff, employees) was found to be related to perceptions of power (authority and prestige) and autonomy (5b, 7: using one's skills and initiative; working in one's own way). Responsibility (7) was higher for hourly than for technical staff. Perceptions of interest in one's work (5) and importance of one's work (4) were inversely related to hierarchy, but a "sense of worthwhile achievement" (4) was unrelated to hierarchy. Hierarchy was inversely related to having friends as co-workers (6b). For the total sample, involvement with superior was strongly related to power and autonomy (7) as well as to peer relations and teamwork (6b). Identity with one's work unit (8) was related to hierarchy.

Hierarchical level was also positively associated with perceptions of adequacy of employees' safety training (2), with management's concern for safety (2), and with management's concern for pollution (10c).

Powers, Jack E. "The Camarillo Project" (February, 1972). Unpublished. Available from Mr. Jack E. Powers, Cryovac Division, W. R. Grace & Company, Duncan, South Carolina 29334.

Following a good start-up of a new plant in California manufacturing plastic bags, work turnover (1) increased as a result of poor job design and work assignments. The well qualified, new labor working on a salaried basis reported that the permanent jobs contained few of the learning opportunities (5a) available during start-up.

One department (nine operators, 18 inspectors, six service personnel over three shifts) was selected to undertake job enrichment and sociotechnical variance analysis. Work arrangements were changed from one operator and two packer-inspectors per two work lines, to one operator per machine without inspector-packers. Also now have at least one employee per shift who is responsible for a specific customer account. Following this change, jobs contained a complete piece of work, with provisions for operator control for most of the process (7), and provided continuous feedback to the operator. Measurement has begun on costs quality, absenteeism, turnover, and job satisfaction, in this plant and in two others, but no data are reported.

Prestat, Claude. "A Case of Autonomous Groups" (April, 1972). Unpublished. Available from Jean-Daniel Reynaud, Conservatoire National des Arts et Metiers, Institute of the Sociology of Work, 292 Rue St-Martin 75, Paris 3, France.

Purpose

The purpose of the experience was to develop the motivations of the workers and improve efficiency through the creation of groups, having a certain autonomy; the work within the groups would allow an increased responsibility through job enrichment.

Environment

The experiment took place in a nylon spinning area, a small section within the plant. The process is new and three stages of production are now incorporated in one machine. The opportunity was good, because the equipment allowed the tasks to be regrouped. There was no control group because the installation is the only one of its kind. This experiment was started two and one-half years ago and affected 100 workers divided into four shifts of 25 persons (continuous operations). Each shift was divided into four independent teams.

Variables

The experiment included the whole of the nylon spinning sector, management, organization, etc. The variables studies included: job enlargement, job enrichment and participation in decision making, and leadership styles. This study is controlled empirically. As a consequence the effect of each variable on the total operation cannot be evaluated separately. At the end of 1972 a new program of experiments designed to examine each of these variables will be started.

New Nylon Spinning Organization

Job enlargement work is not structured. Each worker can fulfill all the operations, including breakdown activities. It was necessary, however, to define two jobs for input and output operations. The traditional organization would have created five different jobs.

Job enrichment objectives are discussed with the foremen every 10 days. Controls (7) are made by the workers, and also furnished by the laboratory. These are discussed in groups (6b) in order to determine the ways and means to achieve the objectives for

"A Case of Autonomous Groups"
(Continued)

the next period. The workers divide the tasks between themselves and participate in the preparation of operational procedures. In fact the group structures are not identical because they are free to elaborate them. They are responsible for the organization of breaktimes and authorized absences. They define the personnel necessary to do the work (both increases and decreases). They participate in the choice of those who are to take the input and output jobs (chemical process operator and shipping clerk). They are in direct contact with the maintenance workers for running repairs.

Leadership became: support for the teams in the achievement of the objectives, setting of objectives, group activation, and communication from outside the groups.

Results

Absenteeism (1) was for a long time at one-third of that of the rest of the plant, but has increased recently (Hawthorne effect ?). No grievances (1) in the spinning area itself have been noted. Strike activities (1) are significantly lower than in other areas. The workers refuse transfers (8).

An "Echo" questionnaire was recently given to the 11 area foremen, 3 questions were posed: What is good? What is bad? and What can be improved? The foremen were to give three replies to each question and three explanations for each reply.

The results showed that the new organization allowed the practical objectives to be attained, to create a climate of confidence, to ease communications, and to allow a certain self fulfillment for the workers.

However, difficulties were met in the secondary task and activities (cleaning supply duties, etc.) and in general discipline of breaktimes. A questionnaire for workers is being studied in order to evaluate the interest the workers have in variables which make up the experiment. A new experiment, without job enrichment variables has been made in another area, since December, 1971. It is too early to provide results.

8031

Quinn, Robert P. "The Multi-Million Dollar Misunderstanding" (April, 1972). Unpublished. Available from Mr. Robert P. Quinn, Senior Study Director, Survey Research Center, Institute for Social Research, The University of Michigan, Ann Arbor, Michigan 48106.

Two matched samples of black, economically disadvantaged men were recruited by a company for entry-level assembly jobs in heavy industry. While the men in the first sample were placed directly on jobs, those in the second sample were placed on comparable jobs only after having completed several weeks of company conducted vestibule training. A comparison of the subsequent turnover rates of the two samples indicated that the company's vestibule training program failed completely to achieve its major goal of reducing turnover among newly-hired disadvantaged workers.

An analysis of the sources of turnover among the sample of untrained workers revealed that this turnover (1) was almost entirely attributable to the extraordinarily poor quality of the jobs to which the men had been assigned -- circumstances which no amount of vestibule training could mitigate. Indeed, the company's training program may even have been dysfunctional because it raised trainees' expectations to a point where their intolerance of poor working conditions was heightened.

The study gloomily concludes that such company-conducted and government subsidized training efforts designed to instill in disadvantaged workers the "right attitudes" toward work may amount to little more than attempts to brainwash disadvantaged workers so that they will placidly tolerate poor working conditions. Time, effort, intellect, and money, it is suggested, should be directed away from the multi-million dollar canard of "improving the work related attitudes of disadvantaged workers" and turned instead to improving the conditions under which they work. The study's data indicated that a, if not *the*, key to securing stable employment for the previously disadvantaged lies in the improvement of the working conditions to which they are economically subjugated.

8032

Sorcher, Melvin. "Work Teams Within General Electric" (April, 1972). Unpublished. Available from Dr. Melvin Sorcher, General Electric Company, Building 2, Room 213, Electronics Park, Syracuse, New York 13201.

We are currently testing the feasibility of relatively autonomous work teams in a variety of factory situations. The objective of this research is to determine (a) whether work teams are a more desirable alternative to more traditional factory and shop organizations, and (b) what circumstances or conditions tend to facilitate or inhibit the effectiveness of work teams. The criteria for work team effectiveness include the usual "hard" performance data, e.g., scrap, productivity, machine downtime, direct and indirect labor costs, overhead costs, idle time, operator efficiency, etc., as well as attitudinal data from supervisors and employees. These studies are taking place in several locations, in large urban centers and at rural locations, in different geographical areas, with different manufacturing processes, and with different age, sex, and skill mixes. Preliminary data is very encouraging. In some cases, productivity has actually doubled and in all cases both supervisors and employees have expressed considerable satisfaction with the work team approach vs. their usual "individual contributor" role.

The crucial part of the process of forming work teams (6b) is in the careful preparation of the team's supervisor since the dynamics of a work team often presents a sharp contrast with past practices and the supervisor must help to ease the transition.

8033

Susman, Gerald I. "Automation and Worker Integration with Work-Role and Organization" (April, 1972). Unpublished. Available from Gerald I. Susman, Associate Professor, College of Business Administration, Pennsylvania State University, 120 Boucke Building, University Park, Pennsylvania 16802.

Previous research suggests that automation undermines the job conditions favorable to an occupational or work role identity (4) and reinforces organizational conditions favorable to a company and work group identity (8). Job and company related attitudes were compared for holders of automatic and manual monitoring jobs in continuous-process industries. It was hypothesized that automation does not increase intrinsic involvement in work or self-evaluation in terms of the work role, but integrates the worker with his company and work group. The data support the hypothesis. Implications of the findings for future research are discussed.

8034

Susman, Gerald I. "Workers' Responses to Job Enlargement by Location of Childhood and Current Residence" (April, 1972). Unpublished. Available from Gerald I Susman, Associate Professor, College of Business Administration, Pennsylvania State University, 120 Boucke Building, University Park, Pennsylvania 16802.

Studies which test for differential responses to job enlargement among rural and urban workers are criticized for not controlling for industry and technology differences among the jobs studied, defining rural and urban populations by plant location only, and measuring attitudes not appropriate for testing the efforts of job enlargement. These criticisms are eliminated in the present study by testing the job enlargement hypothesis within continuous process industries only (127 jobs in 26 plants rated by industrial engineers within the companies), with populations defined by childhood residence and plant location and by measuring attitudes related to intrinsic work motivation (329 employees of the companies completed a questionnaire, 55 percent response rate). It was found that populations of rural bred-rural resident, rural bred-urban resident, and urban bred-urban resident all responded favorably to job enlargement and discretion (7), in pride of accomplishment (4), and interest in job (1).

8035

Taylor, J. C., and Sparrow, T. H. "The Organization of Oil Distribution Terminals" (June, 1971). Unpublished. Available from Centre for the Utilization of Social Science Research, Loughborough University of Technology, Loughborough LE11 2SR, England.

In a study of five large oil distribution terminals, drivers, supervisors and managers, and clerical staff were interviewed and observed, following a series of changes in terminal size and location, management mobility, and work measurement. Increases in terminal size, and shift work, were related to division and separation of work mates (6b), which led to decreased insulation of drivers from terminal influence (7). Change of terminal location and separation of work mates acted in increasing privatization of home (11) and leisure activities (10). Increased management mobility led to lower driver identification with the terminal (8). Amount of pay (3) and company prestige maintained identification with the company (8). Introduction of shift work and elimination of one man-one vehicle relationships lowered drivers professional identification (4), which led to greater identification with union representation (1).

Vossen, H. P. "Experiment in the Miniature-Bulb Department of the Terneuzen Works of Philips in the Netherlands" (April, 1972). Unpublished. Available from H. P. Vossen, T.E.O. Light/ Organizational Advisor, N. V. Philips' Gloeilampenfabrieken, Eindhoven, The Netherlands.

Aims of the investigation were to find ways of improving cohesion of the production group, operator identification with the work, knowledge of the work, and independence of the operators in a production line work situation with a short cycle-time (6-20 seconds per unit).

A preliminary investigation was carried out in order to gather technical, ergonometric, economic and socio-psychological data. Apart from the standard techniques of work study and classical industrial economics, use was also made of free and structured interviews and questionnaires. Data were also collected on the subjective impression the operators received of the work, their job satisfaction, their cooperation and group cohesion. The sample consisted of 150 operators and 25 managers and specialists.

The data from the preliminary investigation were discussed in two working groups. The first group consisted of departmental and group management and operator members; the discussion theme was departmental structure. The second working group consisted of a group supervisor and operators (there were in fact a number of these groups, covering all the units in the department). Their theme was work structure. These working groups arrived at a formulation of: a suitable departmental structure and of a suitable organizational and operational setup for each production group within the department. During a trial period of about four months with an autonomous production group, (6b) discussions were held with management concerning the appropriate style of management to be followed (shift of emphasis from technical to social leadership; gradual introduction of workers' participation in the management process).

Results were: the autonomous production group (4-5 persons) determines its own task assignment, controls the quality of the product and the production level, can influence the production standards and takes the initiative in consulting management if necessary (7).

The members of the group now know more about the product (5a) and production methods than before, and the interplay between personal and working relations (6b) is greater.

"Experiment in the Miniature-Bulb Department of the Terneuzen
Works of Philips in the Netherlands"
(Continued)

It has been decided to extend the number of autonomous production groups (with 4-6 operators in each group) gradually, and finally to do away with the stationary production-line system.

8037

Walton, Richard E. "Topeka General Foods Plant" (April, 1972). Unpublished. Available from Professor Richard E. Walton, Harvard University, Graduate School of Business Administration, Soldiers Field, Boston, Massachusetts 02163.

A new General Foods plant, started January, 1971, in Topeka, Kansas, incorporated features intended to provide a high quality work life, enlist unusual human involvement, and result in high productivity. These features included self-governing work teams responsible for large segments of the production process; operators responsible for many functions normally assigned to staff; a single job classification with pay increases geared to mastering an increasing proportion of the plant's jobs rather than geared to progressing up a job hierarchy; provision of "managerial" information and decision rules to enable greater decisions to be made at the operator level; minimum status differences symbolized by such devices as a single office-plant entrance and a common decor throughout office, cafeteria and locker rooms.

Several noteworthy problems were encountered in the implementation of the new organizational concept: Some operators did not readily accept the broad responsibilities. Team leaders experienced trouble in adopting the new patterns expected of them. The compensation scheme became a source of tension. Group pressures on an individual to conform with group norms for cooperation and performance were occasionally excessive.

However, on balance, the plant organization to date has effectively met the objectives. Based on self-reports of participants and the observations of many who have become acquainted with the plant, employees--operators, team leaders and managers alike--have become involved (8), have grown rapidly as individuals (5a), have derived high satisfaction. Operators report favorably on the greater influence (7) that they enjoy and the closer relations which they experience between "superiors" and themselves (6b). These superiors report favorably on the capacities and sense of responsibility which operators have developed. In view of these early results, corporate management has taken steps to utilize the Topeka experience in other divisions.

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TABLE 1: CONTEXTUAL MATRIX OF PARAMETERS IN THE QUALITY OF WORKING LIFE:

FREQUENCY OF ASSOCIATIONS BETWEEN 'CAUSAL' AND 'OUTCOME' VARIABLES

VARIABLES CAUSAL TO WORK ACTIVITIES / OUTCOME VARIABLES	1.* ALIENATION	2. HEALTH AND SAFETY	3. ECONOMIC SECURITY	4. SELF-ESTEEM	5. SELF-ACTUALIZATION	A. LEARNING AND GROWTH	B. USING EXISTING COMPETENCE	6. WORK ENVIRONMENT	A. PHYSICAL	B. SOCIAL	7. CONTROL AND INFLUENCE	8. ORGANIZATIONAL ENCLOSURE	9. CAREER ASPIRATIONS	10. EXTRA-WORK ACTIVITIES	A. CONSUMPTION	B. CREATION	C. COMMUNITY-CITIZEN INVOLVEMENT	11. HOME AND FAMILY
ORGANIZATIONAL FACTORS	17	2	3	9	4	3	5	1	3	11	15	7	4	1			1	1
- CLIMATE	14	9	11	16	7	9	10	1	5	22	20	13	12	4			2	2
- FUNCTIONAL DIVISION	6	3	3	9	3	5	5	1	3	7	10	6	5	2			1	1
- FORMALIZATION OF POLICY, RULES	16	4	4	12	4	4	6	1	2	13	18	7	12	1				2
- HIERARCHY	30	11	30	29	15	19	21	1	2	38	41	24	15	5	1		4	3
- POWER BASE	14	6	9	8	7	4	8		1	11	21	4	8	1	1			2
- INTERDEPENDENCE OF UNITS			2	1		1	1			2	2	1	1					
- REWARD STRUCTURE	26	16	29	16	12	9	13		6	21	26	19	15	4	1	1	2	2
- ORGANIZATION CHARACTERISTICS																		
- AGE	2	1	3	1	1	1	2		1	3	4	1	1	2			1	2
- SIZE	11	4	3	6	5	3	5		2	16	16	7	3	3	1		1	3
- LOCATION	4	3	6	3	2	2	4		1	7	8	3	2	3	1		1	3
- PRODUCT	3	2	2	1	1	1	2		1	2	2	3		2			1	1
- OWNERSHIP	1	1	2	1	1	1	3			4	4	1	1	2			1	3
- ORGANIZATIONAL ENVIRONMENT	10	5	11	5	3	6	7		2	10	11	8	9	4	2		1	4
- CENTRALIZATION-DECENTRALIZATION	7	1	1	1						2	2		1					
- UNION RECOGNITION	4	2	3	1	1	2	2		1	2	4	3	1	1	1		1	1
OCCUPATIONAL AND JOB CHARACTERISTICS																		
- TYPE	27	16	30	25	15	14	19		6	35	40	24	15	15	3		6	9
- TIME CONDITIONS	17	12	9	10	2	3	6		5	11	16	7	10	7	2	1	3	6
- FEEDBACK	8	5	4	5	3	4	8		2	6	7	7	3	2			1	1
- DEMANDS	45	32	33	36	22	29	28	1	10	53	68	35	27	12	1	2	6	11
- MOBILITY	7	7	8	6		6	7		2	7	10	4	8	3			2	3
SUPERVISION	25	18	22	13	8	11	15		6	41	38	16	19	7	1	1	2	6
WORK GROUP	18	13	13	15	8	11	16		8	34	33	16	10	5		1	2	3
STATUS AND PRESTIGE	7	10	13	9	8	5	6		1	10	11	10	5	4	2		4	6
TRAINING	10	5	8	9	3	12	12	1	1	26	24	12	8	2			2	5
TECHNOLOGY	21	15	20	21	8	12	14	1	9	28	34	16	11	10	1	3	4	6
CHANGES																		
- JOB	15	6	5	9	5	11	7		1	12	23	11	7	2				2
- ORGANIZATION	12	9	10	10	4	8	10	1	2	19	19	14	4	3				3
- TECHNOLOGY	5	9	10	10	3	6	7		1	13	12	5	7	1				1
- ENVIRONMENTAL	1	2	2	1			1			1	2	1	2	1			2	1
MEMBER CHARACTERISTICS																		
- AGE	24	14	25	15	9	7	10		7	19	20	18	15	6	2		5	5
- TENURE	16	11	17	11	8	5	7		3	18	19	17	11	6	2		2	4
- SEX	15	8	14	10	8	5	6	1	2	10	12	8	11	2	1		3	4
- RACE	2	1	3	2	1	2			1	1	2		3				1	1
- MARITAL, AND FAMILY RESPONSIBILITY	10	5	7	5	2	2	3	1		6	5	4	5	3	2		3	4
- CULTRAL BACKGROUND	7	6	13	7	4	5	5		1	12	12	6	6	6	3		4	9
- EXPERIENCE	11	8	6	8	3	4	5			10	10	10	9	5	1		1	4
- PERSONALITY, NEEDS, EXPECTATIONS, LIFE STYLE	38	21	24	21	13	8	15		6	29	32	26	24	7	3	1	8	[illegible]
- SKILLS, ABILITIES, HEALTH	10	9	10	8	4	5	7		2	12	12	9	9	3	4		6	4
- EDUCATION	7	6	11	7	2	3	5		2	10	9	5	7	3	3		3	5
- INCOME	4	3	4	2	1	2	2			3	2		2	2	2		1	1
DECISION-MAKING	5	3	4	4	2	6	6		2	7	14	7	4	1			1	

* CELL ENTRIES REPRESENT THE FREQUENCY OF STUDIES (ABSTRACTS) IN WHICH DATA FROM BOTH ROW AND COLUMN VARIABLES ARE REPORTED

TABLE 2: INDEPENDENT VARIABLES AND ORGANIZATIONAL CHARACTERISTICS: SIZE OF SITE

Organizational Characteristics

INDEPENDENT VARIABLES	*SMALL*	*MEDIUM*	*LARGE*
ORGANIZATIONAL FACTORS	1116 1163 1178 1231 1262 5008	1116 1163 1178 1207 1231 5008 5041	1116 1163 1178 1207 1231 5008 5041 5049
CLIMATE	1238	1194 1252 5041	1114 1206 1229 5025 5041
FUNCTIONAL DIVISION	1262 5008	5008 5029	1096 5008 5020
FORMALIZATION OF POLICY, RULES	1001	1001 1194	1096 1114 1136 1149 1229 8000
HIERARCHY	1238 1262	1195 1228 5029 5041	1073 1087 1093 1096 1144 1191 1195 5010 5041
POWER BASE	1013 1163	1131 1163 1194	1096 1163 5010
INTERDEPENDENCE OF UNITS	1116	1116	1096 1116
REWARD STRUCTURE	1178 1262 5006 5008 5017	1178 1252 5006 5008 5017 5041	1071 1143 1178 1202 1229 5008 5010 5017 5025 5027 5041
ORGANIZATIONAL CHARACTERISTICS	1034 1054 1115 1116 1187 1262 5023	1015 1060 1102 1115 1116 1207 1252	1015 1054 1060 1096 1102 1115 1116 1207 1229 5010 5023 5049
ORGANIZATIONAL ENVIRONMENT	1178 1262 5008	1178 5008	1178 1202 1229 5008 5010
CENTRALIZATION-DECENTRALIZATION	1001 1146	1001	
UNION RECOGNITION	1178 1262	1122 1178 1207	1122 1178 1207 5010
OCCUPATIONAL AND JOB CHARACTERISTICS			
TYPE	1178 1189 1243 5008 5023	1015 1178 1189 1207 1243 5008 5029 5041	1015 1061 1075 1079 1123 1155 1178 1207 1243 5008 5010 5023 5041 5049
TIME CONDITIONS	1128	5029 5041	1025 1191 5034 5041 8000
FEEDBACK	1262 5006	5006	1028 5001

DEMANDS	1034 1049 1116 1128 1138 1163 1239 1262 5006 8029	1010 1022 1116 1163 1207 5006 5029	1003 1050 1061 1079 1084 1116 1123 1154 1163 1164 1202 1207 1229 5010 5020 5025 5049 8000
MOBILITY	1262 8029		1079 1142 8000
SUPERVISION	1090 1163 1187 1232 1262 8011	1068 1092 1122 1131 1163 1232	1003 1084 1114 1122 1126 1155 1163 1191 1202 1206 1232 5010 5020 5027 8024
WORK GROUP	1034 1238 1262	1207	1066 1073 1207 1229 1258 5001 8032
STATUS AND PRESTIGE	1262 5023	1015 5051	1015 1075 1123 1144 5023 5051
TRAINING		5029	1202 1270 5001 5020 8032
TECHNOLOGY	1178 1238 1239 1262 8029	1010 1178 5029 5051	1063 1064 1164 1178 5010 5045 5049 5051
JOB CHANGES	1048 1049 5016 5017 8029	1022 5016 5017	1050 1154 5016 5017 8000
ORGANIZATION CHANGES	5006 5008	5006 5008 5029 5051	1003 1095 5001 5008 5049 5051 8024
TECHNOLOGY CHANGES	5017	5017 5051	1003 1154 5017 5051
ENVIRONMENTAL CHANGES			1064
MEMBER CHARACTERISTICS	1026 1048 1163 1178 1180 1231 1232 1262 5017 5023	1015 1163 1178 1181 1231 1232 1242 5017 5029 5041	1003 1015 1061 1070 1071 1073 1086 1093 1096 1136 1144 1149 1150 1163 1178 1180 1181 1191 1202 1227 1229 1231 1232 1248 5010 5017 5023 5034 5041 5045 5049
DECISION MAKING	1189 1244 1262	1122 1127 1189 1244	1071 1122 1127 1206 1244 5020

TABLE 3: INDEPENDENT VARIABLES AND ORGANIZATIONAL CHARACTERISTICS: SIZE OF COMPANY

Organizational Characteristics

INDEPENDENT VARIABLES	SMALL	MEDIUM	LARGE
ORGANIZATIONAL FACTORS	1052 1231 5008 5040	1052 5008	1016 1052 1207 1231 1262 5049
CLIMATE	1057 1175 1238 1273 5007 5028 5040	1014 1057 1252 5028	1012 1057 1077 1114 1125 1160 1175 1205 1206 1273 5000 5003 5013 5015 5025 8036
FUNCTIONAL DIVISION	5008	5008	1105 1262 5015
FORMALIZATION OF POLICY, RULES	1057 1107 1221 1273 5022	1057 5022	1033 1057 1107 1108 1113 1114 1136 1165 1205 1273 5012 5022 8000
HIERARCHY	1057 1199 1212 1216 1238 5040	1057 1195 1199 1212	1023 1033 1057 1073 1087 1088 1093 1105 1110 1121 1125 1144 1161 1167 1191 1192 1195 1199 1200 1205 1212 1216 1255 1262 5000 5003 5010 5011 5015 5031
POWER BASE	1212 1273	1212	1023 1033 1105 1118 1160 1212 1237 1273 5000 5010 5015 5037 8014 8015 8016
INTERDEPENDENCE OF UNITS	1273		1273
REWARD STRUCTURE	1021 1052 1215 5007 5008 5022 5028 5038	1052 1109 1252 5006 5008 5022 5028	1011 1021 1023 1052 1069 1143 1188 1255 1262 5010 5022 5025 5027 5037 5047
ORGANIZATIONAL CHARACTERISTICS	1000 1052 1057 1199 5023 5043	1052 1057 1101 1199 1252	1000 1034 1052 1057 1125 1199 1207 1262 5010 5015 5023 5043 5049
ORGANIZATIONAL ENVIRONMENT	1221 5008 5028	5008 5028	1053 1262 5010 5036 8026
CENTRALIZATION-DECENTRALIZATION	1264		1264
UNION RECOGNITION			1207 1262 5010
OCCUPATIONAL AND JOB CHARACTERISTICS			
TYPE	1057 1111 1175 1212 1213 5007 5008 5023 5038 5040 5043	1057 1212 5008	1018 1057 1061 1072 1075 1111 1123 1124 1125 1175 1207 1208 1212 1214 1224 1247 5010 5023 5043 5049 8037

TIME CONDITIONS	1128		1191 1247 5000 5015 8000
FEEDBACK		5006	1088 1158 1262 8015 8026
DEMANDS	1000 1107 1128 1239 1263 1273 5007 5022 5028 5038 5043	1101 5006 5022 5028	1000 1003 1018 1022 1034 1049 1050 1061 1082 1084 1107 1108 1110 1123 1124 1134 1154 1158 1160 1165 1207 1255 1261 1262 1263 1273 5003 5010 5022 5025 5036 5037 5043 5049 8000 8005 8023 8026 8027 8031 8037
MOBILITY	1052 5007	1052	1052 1110 1124 1142 1262 8000 8001 8002 8016 8026
SUPERVISION	1175 1216 1221 5007 5022 5038	1101 5022	1003 1011 1084 1090 1105 1114 1125 1126 1157 1175 1191 1204 1206 1209 1216 1233 1255 1262 5000 5010 5022 5027 5036 5047 8024 8026
WORK GROUP	1107 1238 1263 5007	1101 1109	1011 1034 1066 1073 1107 1207 1209 1214 1255 1262 1263 5037 5047 8002 8023 8032 8036 8037
STATUS AND PRESTIGE	5023 5051	5051	1072 1075 1113 1123 1124 1144 1262 5015 5023 5051 8037
TRAINING	1135 8017	1017	1023 1024 1046 1047 1074 1113 1201 1270 1272 5036 8004 8010 8022 8026 8031 8032
TECHNOLOGY	1212 1238 1239 5043 5051	1014 1109 1212 5051	1063 1064 1147 1158 1165 1212 1214 1245 1262 5010 5043 5045 5049 5051 8005 8014
JOB CHANGES			1022 1049 1050 1073 1108 1154 1251 5037 8000 8005 8023 8027 8037
ORGANIZATION CHANGES	5008 5040 5051	5006 5008 5051	1003 1245 5011 5037 5049 5051 8024
TECHNOLOGY CHANGES	5051	1014 5051	1003 1154 5037 5047 5051
ENVIRONMENTAL CHANGES	1152		1064 1152
MEMBER CHARACTERISTICS	1000 1052 1057 1089 1107 1111 1216 1221 1231 1242 5007 5022 5023 5028 5038 5040 5043	1014 1052 1057 1101 1109 1159 1172 5022 5028	1000 1003 1012 1016 1033 1043 1052 1053 1057 1061 1073 1082 1083 1088 1093 1105 1107 1110 1111 1113 1124 1134 1136 1144 1169 1181 1191 1192 1204 1208 1209 1211 1216 1218 1231 1234 1247 1248 1255 1262 5000 5003 5010 5011 5012 5015 5022 5023 5031 5043 5045 5049 8015 8026 8031
DECISION MAKING	1052 5007	1052 1109	1052 1108 1130 1206 1244 1262

TABLE 4: INDEPENDENT VARIABLES AND ORGANIZATIONAL CHARACTERISTICS: LOCATION (UNITED STATES, UNITED KINGDOM, EUROPE, AND OTHER)

Organizational Characteristics

INDEPENDENT VARIABLES	*U.S.*	*U.K.*	*EUROPE*	*OTHER*
ORGANIZATIONAL FACTORS	1036 1052 1058 1078 1116 1163 1182 1231 1251 1262 5026	1262 5008 5040 5041 5049	1262 5008	1016 1020 1178
CLIMATE	1012 1057 1077 1099 1114 1125 1160 1175 1201 1205 1206 1238 1273 5003 5007 5025 5026	1014 1104 1156 1194 1249 1268 5015 5028 5040 5041	1059 1229 5000 5013 8036	1229 8020
FUNCTIONAL DIVISION	1105 1262 5020 5026 5029	1156 1262 5008 5015	1262 5008	8020
FORMALIZATION OF POLICY, RULES	1001 1033 1057 1114 1136 1205 1221 1273 5022 5026 8003	1156 1194 8000	1107 1229 5012	1229
HIERARCHY	1007 1033 1057 1062 1073 1082 1088 1093 1098 1105 1110 1121 1125 1132 1139 1144 1161 1173 1191 1192 1195 1196 1197 1198 1199 1200 1205 1228 1238 1255 1262 5003 5010 5011 5021 5029 5031 8007 8021	1023 1262 5002 5015 5021 5040 5041 5050	1119 1212 1262 5000 5021	1157 5021 8009 8028
POWER BASE	1005 1013 1019 1033 1098 1105 1118 1131 1160 1163 1273 5010 8016	1023 1134 5015 5050	1176 1212 5000 5033 5037 8014	1039
INTERDEPENDENCE OF UNITS	1116 1273 8025			
REWARD STRUCTURE	1007 1021 1052 1069 1071 1098 1139 1201 1202 1255 1262 5007 5010 5017 5022 5025 5039 5047 8008	1023 1109 1262 5002 5006 5008 5009 5028 5038 5041	1081 1229 1262 5008 5027 5037 8013	1011 1178 1188 1229
ORGANIZATIONAL CHARACTERISTICS	1000 1009 1015 1038 1052 1057 1060 1062 1101 1102 1115 1116 1125 1173 1187 1199 1262 1269 5010 5021 5039 5043	1262 5009 5015 5021 5023 5049 8035	1120 1229 1262 5021 5033	1054 1229 5021
ORGANIZATIONAL ENVIRONMENT	1201 1202 1221 1262 1269 5010 5036	1262 5002 5008 5009 5028	1053 1119 1120 1229 1262 5008	1178 1229
CENTRALIZATION-DECENTRALIZATION	1001 1146 1264			
UNION RECOGNITION	1122 1262 5010	1262	1262	1178
OCCUPATIONAL AND JOB CHARACTERISTICS				
TYPE	1015 1018 1037 1040 1042 1055 1057 1061 1072 1079 1100 1123 1124 1125 1139 1148 1175 1179 1182 1186 1189 1198 1213 1243 1257 1269 5007 5010 5029 5035 5043 5048 8037	1190 1208 1247 5008 5018 5019 5023 5038 5040 5041 5049 5050 8035	1056 1111 1119 1176 1212 1214 5008 5033	1157 1178 1224 8028
TIME CONDITIONS	1025 1128 1145 1168 1191 1269 5029 5034 8008	1246 1247 1260 5002 5015 5041 8000	5000 5033	8020
FEEDBACK	1028 1088 1262 5001	1262 5006 5009	1059 1262	

DEMANDS	1000 1010 1018 1019 1022 1040 1049 1050 1055 1061 1079 1080 1082 1084 1097 1100 1101 1110 1116 1123 1124 1128 1134 1148 1154 1160 1163 1164 1182 1186 1202 1239 1241 1251 1255 1261 1262 1263 1273 5003 5007 5010 5020 5022 5025 5026 5029 5036 5039 5043 5048 8005 8018 8021 8023 8029 8031 8034 8037	1190 1250 1262 5002 5006 5009 5028 5038 5049 8000 8027	1056 1081 1107 1119 1223 1229 1262 5033 5037 8006 8013 8030	1158 1229
MOBILITY	1007 1052 1079 1097 1110 1124 1142 1145 1148 1262 1269 5007 8016 8029	1262 5046 8000	1262	8001 8002
SUPERVISION	1009 1019 1031 1068 1084 1092 1101 1105 1114 1122 1125 1126 1131 1145 1148 1153 1163 1175 1182 1187 1191 1202 1204 1206 1210 1221 1232 1233 1259 1262 1271 5007 5010 5020 5022 5036 5047 5048 8003 8024 8025	1104 1166 1262 5009 5038 8035	1262 5000 5027 8013	1011
WORK GROUP	1066 1073 1101 1238 1255 1258 1262 1263 5001 5007 5047 8003 8012 8023 8032 8037	1109 1246 1262 5009 5050 8035	1059 1107 1214 1229 1262 5033 5037 8030 8036	1011 1229 8002 8020
STATUS AND PRESTIGE	1015 1037 1067 1072 1080 1123 1124 1137 1144 1162 1253 1257 1262 1269 8037	1262 5015 5018 5023 5051 8035	1262	
TRAINING	1017 1028 1029 1035 1045 1047 1074 1112 1133 1135 1202 1205 1220 5001 5020 5029 5030 5036 8004 8017 8031 8032	1017 1023 1029 1270 5050	1059	1017 1272
TECHNOLOGY	1010 1040 1063 1064 1147 1164 1238 1239 1240 1251 1262 5010 5029 5035 5043 5045 5048 8005 8012 8029 8033	1014 1109 1250 1262 5002 5046 5049 5051	1056 1212 1214 1262 8006 8013 8014	1158 1178 8020
JOB CHANGES	1022 1040 1048 1049 1050 1141 1154 1255 5016 5017 8005 8018 8021 8023 8029 8034 8037	1166 1190 1260 8000 8027	1053 5037 8006 8030	5016
ORGANIZATION CHANGES	1095 5001 5011 5029 5030 8024	5006 5008 5009 5040 5049 5050 5051 8035	5008 5024 5037	
TECHNOLOGY CHANGES	1154 5017 5030 5047	1014 1156 5046 5051	1056 1119 5033 5037	
ENVIRONMENTAL CHANGES	1064 1152	5002		
MEMBER CHARACTERISTICS	1000 1005 1006 1007 1012 1015 1026 1027 1033 1037 1042 1043 1044 1048 1052 1057 1061 1071 1073 1078 1082 1083 1086 1088 1089 1093 1094 1099 1101 1105 1110 1124 1129 1134 1136 1144 1145 1148 1150 1153 1159 1162 1163 1169 1170 1172 1180 1183 1184 1186 1191 1192 1196 1197 1201 1202 1203 1204 1218 1221 1227 1230 1231 1232 1234 1235 1251 1253 1254 1255 1262 1266 1267 1269 5003 5007 5010 5011 5017 5021 5022 5029 5031 5034 5043 5045 5048 8008 8021 8031 8034	1014 1109 1181 1208 1246 1247 1262 1268 5002 5009 5015 5018 5019 5021 5023 5028 5038 5040 5041 5046 5049	1053 1070 1107 1111 1120 1229 1242 1262 5000 5012 5021 8013	1016 1157 1178 1185 1229 1230 1256 1266 5021
DECISION MAKING	1052 1071 1122 1130 1189 1206 1244 1262 5007 5020	1109 1190 1262	1127 1177 1262	

TABLE 5: INDEPENDENT VARIABLES AND ORGANIZATIONAL CHARACTERISTICS: LOCATION (URBAN AND RURAL), AND AGE

Organizational Characteristics

INDEPENDENT VARIABLES	*URBAN*	*RURAL*	*YOUNG*	*OLD*
ORGANIZATIONAL FACTORS	1058 1163 5040	1020 5040 5041	1078 1182 1207	1207 5008 5040 5041
CLIMATE	1175 5028 5040	5007 5040 5041		5028 5040 5041
FUNCTIONAL DIVISION	5029	5029	5029	5008 5020 5029
FORMALIZATION OF POLICY, RULES	1001 1221 5022		1033	
HIERARCHY	1007 1216 5010 5014 5029 5040	5029 5040 5041	1033 5029	5029 5040 5041
POWER BASE	1163 5010		1033 8014	5037
INTERDEPENDENCE OF UNITS				
REWARD STRUCTURE	1007 1021 5006 5010 5022 5028 5038	1011 1188 5007 5041 8013	5009	• 1143 5008 5017 5028 5037 5041
ORGANIZATIONAL CHARACTERISTICS	1115 5010 5014		1207 5009	1207
ORGANIZATIONAL ENVIRONMENT	1221 5010 5028		5009	1053 5008 5028
CENTRALIZATION-DECENTRALIZATION	1001			
UNION RECOGNITION	5010		1207	1207
OCCUPATIONAL AND JOB CHARACTERISTICS				
TYPE	1037 1175 1189 5010 5014 5029 5038 5040	1040 1189 5007 5029 5040 5041	1182 1207 5029	1207 5008 5029 5040 5041
TIME CONDITIONS	5029 5034	5029 5041	5029	5029 5034 5041
FEEDBACK	5006 5014		5009	5001

DEMANDS	1163 1261 5006 5010 5014 5022 5028 5029 5038	1040 5007 5029 8013	1182 1207 5009 5029 8029	1050 1207 5020 5028 5029 5037
MOBILITY	1007	5007	8029	
SUPERVISION	1163 1175 1216 1221 5010 5022 5038	1011 5007 8013	1182 5009	5020
WORK GROUP		1011 5007	1207 5009	1207 5001 5037
STATUS AND PRESTIGE	1037 5014			
TRAINING	5029	5029	5029	1017 1046 5001 5020 5029
TECHNOLOGY	5010 5014 5029	1040 5029 8013	5029 8014 8029	5029
JOB CHANGES	5016	1040 5016	8029	1050 1053 5016 5017 5037
ORGANIZATION CHANGES	1095 5006 5029 5040	5029 5040	5009 5029	5001 5008 5029 5037 5040
TECHNOLOGY CHANGES				5017 5037
ENVIRONMENTAL CHANGES			1152	1152
MEMBER CHARACTERISTICS	1007 1037 1094 1163 1216 1221 5010 5014 5022 5028 5029 5034 5038 5040	1070 1089 1094 5007 5029 5040 5041 8013	1033 1078 5009 5029	1053 1129 1227 5017 5028 5029 5034 5040 5041
DECISION MAKING	1189	1189 5007		5020

TABLE 6: INDEPENDENT VARIABLES AND ORGANIZATIONAL CHARACTERISTICS: OWNERSHIP

Organizational Characteristics

INDEPENDENT VARIABLES	*CORPORATE*	*GOVERNMENT*	*FAMILY*	*NONPROFIT*
ORGANIZATIONAL FACTORS	1020 1052 1116 1178 1182 1231 1251 1262 5008 5049	1016 1020 1036 1052 1058 1163 1178 1182 5041	1058 5040	1116 1231
CLIMATE	1057 1114 1160 1175 1194 1205 1206 1229 5007 5025	1012 1057 1099 1125 1175 1201 1273 5000 5041	5028 5040	1273
FUNCTIONAL DIVISION	1262 5008 5020 5029			
FORMALIZATION OF POLICY, RULES	1001 1057 1108 1114 1194 1205 1229 5022 8003	1001 1033 1057 1221 1273		1001 1065 1273
HIERARCHY	1007 1057 1062 1087 1110 1157 1167 1173 1192 1205 1216 1228 1255 1262 5010 5011 5029 8021	1033 1057 1062 1073 1121 1125 1161 1191 1200 1212 1216 5000 5041 8009	5040	1273
POWER BASE	1160 1194 5010	1005 1033 1039 1163 1176 1212 1273 5000	5033 5037	
INTERDEPENDENCE OF UNITS	1116	1273		1116 1273
REWARD STRUCTURE	1007 1021 1052 1069 1071 1143 1178 1188 1202 1229 1255 1262 5006 5007 5008 5010 5017 5022 5025 5038	1021 1052 1178 1201 5041	1143 5017 5028 5037	
ORGANIZATIONAL CHARACTERISTICS	1000 1009 1015 1052 1057 1062 1101 1115 1116 1173 1187 1229 1262 1269 5010 5043 5049	1034 1052 1054 1057 1062 1120 1125 1269	5033	1115 1116
ORGANIZATIONAL ENVIRONMENT	1053 1178 1202 1229 1262 1269 5008 5010 8026	1120 1178 1201 1221 1269	5028	
CENTRALIZATION-DECENTRALIZATION	1001 1146	1001		1001
UNION RECOGNITION	1178 1262 5010	1178		1122
OCCUPATIONAL AND JOB CHARACTERISTICS				
TYPE	1015 1057 1061 1100 1123 1124 1157 1175 1178 1182 1186 1190 1208 1269 5007 5008 5010 5029 5038 5043 5048 5049 8037	1057 1072 1075 1079 1100 1125 1151 1175 1176 1178 1182 1186 1189 1212 1214 1224 1269 5041	1213 5033 5040	1243

TIME CONDITIONS	1025 1145 1269 5029 5034	1168 1191 1269 5000 5041	5033	
FEEDBACK	1108 1262 5001 5006 8026			
DEMANDS	1000 1010 1050 1061 1084 1100 1101 1108 1110 1116 1123 1124 1158 1160 1182 1186 1190 1202 1229 1251 1255 1262 5006 5007 5010 5020 5022 5025 5029 5038 5043 5048 5049 8018 8021 8023 8026 8031 8037	1022 1034 1049 1079 1100 1163 1164 1182 1186 1241 1250 1261 1263 1273	5028 5033 5037	1065 1116 1273
MOBILITY	1007 1052 1110 1124 1145 1262 1269 5007 8026	1052 1079 1269 5046 8001		
SUPERVISION	1009 1068 1084 1101 1114 1145 1167 1175 1182 1187 1202 1204 1206 1209 1210 1216 1259 1262 5007 5010 5020 5022 5038 5048 8003 8026	1125 1163 1166 1175 1182 1191 1216 1221 1233 1271 5000		1122 1232
WORK GROUP	1101 1209 1229 1255 1258 1262 5001 5007 8003 8012 8023 8032 8037	1034 1073 1214 1263	5033 5037	
STATUS AND PRESTIGE	1015 1123 1124 1162 1262 1269 5051 8037	1072 1075 1162 1269	5051	
TRAINING	1017 1029 1112 1135 1202 1205 1220 1272 5001 5020 5029 8004 8022 8026 8031 8032	1046 1074 1112 1133 1217	8017	
TECHNOLOGY	1010 1147 1158 1178 1251 1262 5010 5029 5043 5048 5049 5051 8012	1164 1178 1212 1214 1250 5046	5051	
JOB CHANGES	1050 1053 1108 1190 1255 5016 5017 8018 8021 8023 8037	1022 1049 1166	5017 5037	
ORGANIZATION CHANGES	5001 5006 5008 5011 5029 5049 5051	1002 5024	5037 5040 5051	
TECHNOLOGY CHANGES	5017 5051	5046	5017 5033 5037 5051	
ENVIRONMENTAL CHANGES	1152		1152	
MEMBER CHARACTERISTICS	1000 1006 1007 1015 1043 1052 1053 1057 1061 1070 1071 1089 1101 1110 1124 1145 1157 1159 1162 1169 1172 1178 1186 1192 1202 1203 1204 1208 1209 1216 1219 1227 1229 1230 1231 1251 1255 1262 1266 1269 5007 5010 5011 5017 5022 5029 5034 5038 5043 5048 5049 8021 8026 8031	1005 1006 1012 1016 1026 1032 1033 1052 1057 1073 1094 1099 1120 1129 1151 1162 1163 1178 1180 1181 1186 1191 1201 1216 1218 1221 1265 1269 5000 5041 5046	5017 5028 5040	1006 1065 1231 1232
DECISION MAKING	1052 1071 1108 1190 1206 1262 5007 5020	1052 1127 1177 1189		1122 1244

TABLE 7: INDEPENDENT VARIABLES AND ORGANIZATIONAL CHARACTERISTICS: PROCESS AND STRUCTURE

Organizational Characteristics

INDEPENDENT VARIABLES	TALL	FLAT	MECHANISTIC	ORGANIC
ORGANIZATIONAL FACTORS	1016 1036 1058 5026	1036 1058	1030 1058 5008	1052 5008
CLIMATE	1051 1099 1125 1249 5000 5003 5026	1051	1114 1156 1194	1114 1194
FUNCTIONAL DIVISION	5020 5026 5029		1156 5008	5008
FORMALIZATION OF POLICY, RULES	1033 5026		1114 1136 1156 1165 1194	1114 1165 1194
HIERARCHY	1023 1033 1087 1088 1093 1110 1121 1125 1157 1161 1200 1228 5000 5003 5029	1023	1023 1098 1228 5010	1023
POWER BASE	1019 1023 1033 1118 1131 1237 5000	1023	1023 1098 1194 5010	1023 1194
INTERDEPENDENCE OF UNITS		8025		8025
REWARD STRUCTURE	1023 5009	1023 5009	1023 1098 5008 5010	1023 1052 5008
ORGANIZATIONAL CHARACTERISTICS	1125 5009	5009 8035	5010 8035	1034 1052
ORGANIZATIONAL ENVIRONMENT	5009	5009	5008 5010	5008
CENTRALIZATION-DECENTRALIZATION				
UNION RECOGNITION			5010	
OCCUPATIONAL AND JOB CHARACTERISTICS				
TYPE	1125 1151 1155 1157 1214 5018 5019 5029	8035	5008 5010 8035	5008
TIME CONDITIONS	1025 5000 5029			
FEEDBACK	1088 5009	5009		

DEMANDS	1019 1022 1084 1110 1134 1261 5003 5009 5020 5026 5029	5009	1084 1165 5010	1034 1165
MOBILITY	1110 1142			1052
SUPERVISION	1019 1084 1125 1131 1155 1166 1204 1209 1271 5000 5009 5020	1092 5009 8025 8035	1084 1114 5010 8035	1114 1209 8025
WORK GROUP	1066 1076 1209 1214 5009	5009 8035	8035	1008 1034 1209
STATUS AND PRESTIGE	5018	8035	8035	
TRAINING	1023 1045 1076 1133 5020 5029 5030	1023 8017	1023 8017	1023 1047 8017
TECHNOLOGY	1064 1214 5029		1165 5010	1165
JOB CHANGES	1022 1141 1166			
ORGANIZATION CHANGES	5009 5029 5030	5009 8035	5008 8035	5008
TECHNOLOGY CHANGES	5030		1156	
ENVIRONMENTAL CHANGES	1064 1152			
MEMBER CHARACTERISTICS	1016 1026 1033 1086 1088 1093 1099 1110 1134 1150 1151 1157 1172 1204 1209 1234 1256 1267 5000 5003 5009 5018 5019 5029	5009	1136 5010	1052 1209
DECISION MAKING	1127 1130 5020	1127		1052

TABLE 8: INDEPENDENT VARIABLES AND ORGANIZATIONAL CHARACTERISTICS: SOCIAL INNOVATIONS

Organizational Characteristics

INDEPENDENT VARIABLES	AUTONOMOUS GROUPS	TEAM BUILDING	INDUSTRIAL DEMOCRACY	OTHER
ORGANIZATIONAL FACTORS	1262	1052 1231		
CLIMATE	8036		5015	1201 8020
FUNCTIONAL DIVISION	1262		5015	8020
FORMALIZATION OF POLICY, RULES	8000			
HIERARCHY	1262	1103	1212 5015	1274
POWER BASE			1176 1212 5015	
INTERDEPENDENCE OF UNITS	8025			
REWARD STRUCTURE	1262	1052		1143 1201 1202
ORGANIZATIONAL CHARACTERISTICS	1262	1052	1120 5015	
ORGANIZATIONAL ENVIRONMENT	1262		1120	1201 1202
CENTRALIZATION-DECENTRALIZATION				
UNION RECOGNITION	1262			
OCCUPATIONAL AND JOB CHARACTERISTICS				
TYPE	1214 8037		1176 1212	
TIME CONDITIONS	8000		5015	8020

FEEDBACK	1262			
DEMANDS	1262 8000 8006 8030 8037	8023		1202 8031
MOBILITY	1262 8000 8002	1052		
SUPERVISION	1262 8025			1202 1204 1271 8024
WORK GROUP	1214 1262 8002 8030 8032 8036 8037	1076 8012 8023		8020
STATUS AND PRESTIGE	1262 8037		5015	
TRAINING	1217 8032	1024 1029 1035 1046 1047 1076 1103		1133 1202 1270 1274 8004 8010 8017 8022 8031
TECHNOLOGY	1147 1214 1262 8006	8012	1212	1245 5045 8020
JOB CHANGES	8000 8006 8030 8037	8023		
ORGANIZATION CHANGES			5024	1245 8024
TECHNOLOGY CHANGES				
ENVIRONMENTAL CHANGES				
MEMBER CHARACTERISTICS	1262	1052 1231	1120 1234 5015	1201 1202 1204 5045 8031
DECISION MAKING	1262	1052	1127 1177	

TABLE 9: INDEPENDENT VARIABLES AND WORK CHARACTERISTICS: BLUE COLLAR

Work Characteristics

INDEPENDENT VARIABLES	*SERVICE*	*INDUSTRIAL*
ORGANIZATIONAL FACTORS	1030 1178 1207 1251 1262 5040 5041 5049	1116 1178 1231 5049
CLIMATE	1051 1059 1104 1201 1206 1238 1249 1252 1268 5003 5007 5025 5028 5040 5041 5044 8020 8036	5003 5028
FUNCTIONAL DIVISION	1226 1262 5020 8020	
FORMALIZATION OF POLICY, RULES	1165 5012 8000	
HIERARCHY	1157 1212 1238 1255 1262 5002 5003 5004 5005 5010 5014 5040 5041 8028	5003 5014 8028
POWER BASE	1131 1176 1212 1237 5010 5037 8014	
INTERDEPENDENCE OF UNITS	8025	1116
REWARD STRUCTURE	1081 1109 1178 1188 1201 1202 1252 1255 1262 5002 5006 5007 5009 5010 5017 5025 5028 5037 5038 5041 5047 8013	1081 1178 1188 1215 5028
ORGANIZATIONAL CHARACTERISTICS	1015 1054 1120 1207 1252 1262 1269 5009 5010 5014 5023 5043 5049	1015 1115 1116 1187 5014 5049 8035
ORGANIZATIONAL ENVIRONMENT	1120 1178 1201 1202 1262 1269 5002 5009 5010 5028 8026	1178 5028
CENTRALIZATION-DECENTRALIZATION		
UNION RECOGNITION	1178 1207 1262 5010	1178
OCCUPATIONAL AND JOB CHARACTERISTICS		
TYPE	1015 1037 1042 1055 1072 1111 1123 1124 1155 1157 1176 1178 1179 1189 1193 1207 1208 1212 1213 1214 1222 1226 1247 1269 5007 5010 5014 5018 5019 5023 5038 5040 5041 5043 5048 5049 8028 8037	1015 1040 1075 1178 1222 1224 5014 5049 8028 8035
TIME CONDITIONS	1025 1128 1145 1174 1246 1247 1260 1269 5002 5034 5041 8000 8020	5014

FEEDBACK	1028 1059 1262 5006 5009 5014 8026	1040 1049 1081 1116 1164 1222 5003 5014 5028 5049 8018
DEMANDS	1004 1010 1022 1050 1055 1081 1084 1123 1124 1128 1158 1165 1202 1207 1222 1223 1239 1250 1251 1255 1262 5002 5003 5004 5006 5007 5009 5010 5014 5020 5025 5028 5037 5038 5043 5044 5048 5049 8000 8005 8013 8023 8026 8029 8031 8034 8037	
MOBILITY	1124 1145 1262 1269 5007 8000 8002 8026 8029	1187 1222 8035
SUPERVISION	1068 1084 1104 1131 1145 1155 1202 1206 1209 1210 1222 1233 1262 1271 5007 5009 5010 5020 5039 5047 5048 8013 8024 8025 8026	1066 1258 8035
WORK GROUP	105, 1109 1207 1209 1214 1238 1246 1255 1262 5004 5007 5009 5037 5047 8002 8012 8020 8023 8032 8036 8037	1015 1075 5014 8035
STATUS AND PRESTIGE	1015 1037 1072 1123 1124 1162 1253 1262 1269 5004 5014 5018 5023 8037	
TRAINING	1059 1202 5020 5030 8026 8031 8032	1040 1164 1178 1245 5014 5045 5049
TECHNOLOGY	1010 1064 1109 1147 1158 1165 1178 1212 1214 1226 1238 1239 1240 1245 1250 1251 1262 5002 5004 5010 5014 5043 5045 5048 5049 8005 8012 8013 8014 8020 8029 8033	1040 1049 8018
JOB CHANGES	1022 1048 1050 1141 1255 1260 5017 5037 8200 8005 8023 8029 8034 8037	1245 5049 8035
ORGANIZATION CHANGES	1245 5005 5006 5009 5024 5030 5037 5040 5049 8024	
TECHNOLOGY CHANGES	5017 5030 5037 5047	
ENVIRONMENTAL CHANGES	1064 1117 5002	
MEMBER CHARACTERISTICS	1004 1015 1037 1041 1042 1048 1070 1109 1111 1117 1120 1124 1129 1145 1157 1159 1162 1172 1178 1201 1202 1208 1209 1222 1227 1230 1246 1247 1248 1251 1253 1255 1262 1266 1268 1269 5002 5003 5004 5005 5007 5009 5010 5012 5014 5017 5018 5019 5023 5028 5034 5038 5040 5041 5043 5044 5045 5048 5049 8013 8026 8031 8034	1015 1094 1178 1181 1222 1231 1235 1242 5003 5014 5028 5045 5049
DECISION MAKING	1109 1189 1206 1262 5007 5020	

TABLE 10: INDEPENDENT VARIABLES AND WORK CHARACTERISTICS: WHITE COLLAR

Work Characteristics

INDEPENDENT VARIABLES	SERVICE	INDUSTRIAL	ADMINISTRATIVE/MANAGERIAL	PROFESSIONAL
ORGANIZATIONAL FACTORS	1052 1116 1178 1231	1178	1016 1030 1052 1178 1182 1231 5008 5026 5040	1020 1030 1036 1052 1058 1163 1178
CLIMATE	1099 5015 8020	1156	1014 1114 1156 1175 1194 1205 5003 5007 5013 5026 5040	1012 1057 1099 1114 1125 1160 1175 1273 5003
FUNCTIONAL DIVISION	5015 8020	1156	1096 1105 1156 5008 5020 5026 5029	
FORMALIZATION OF POLICY, RULES	1001	1156	1096 1107 1114 1136 1156 1194 1205 5026 8000 8003	1001 1033 1057 1065 1113 1114 1136 1149 1165 1221 1273 5022
HIERARCHY	1073 1088 1191 1196 1197 1198 1199 1216 5015 8021	1007 8028	1023 1062 1073 1085 1087 1093 1096 1103 1105 1110 1119 1121 1132 1139 1157 1161 1192 1195 1196 1197 1198 1199 1200 1205 1212 1216 1228 1274 5003 5011 5021 5029 5031 5040 5050 8028	1033 1057 1062 1073 1098 1125 1132 1144 1191 1192 1216 5003 5011 5014 5050 8007 8009 8028
POWER BASE	1118 5015 5033		1023 1096 1105 1194 1212 1237 5033 5050 8015 8016	1005 1013 1033 1039 1098 1160 1163 1273 5033 5050
INTERDEPENDENCE OF UNITS	1116		1096	1273
REWARD STRUCTURE	1052 1178	1007 1178 1202 5027	1023 1052 1071 1139 1178 5007 5008 5017 5039	1021 1052 1098 1178 5022 8008
ORGANIZATIONAL CHARACTERISTICS	1015 1052 1101 1115 1116 1199 1269 5015 5033	5043	1009 1052 1060 1062 1096 1101 1102 1115 1187 1199 1269 5021 5033 5039	1000 1052 1054 1057 1062 1125 1269 5014 5033
ORGANIZATIONAL ENVIRONMENT	1178 1269	1178 1202	1053 1119 1178 1269 5008 5036	1053 1178 1221 1269
CENTRALIZATION-DECENTRALIZATION	1001		1146	1001
UNION RECOGNITION	1122 1178	1178	1122 1178	1178
OCCUPATIONAL AND JOB CHARACTERISTICS				
TYPE	1015 1075 1148 1178 1190 1198 1225 1243 1269 5033	1018 1042 1123 1124 1171 1178 1208 1214 5043 5048 8028	1037 1042 1055 1056 1061 1072 1075 1100 1111 1119 1123 1124 1139 1155 1157 1175 1178 1179 1182 1186 1190 1198 1208 1212 1225 1243 1269 5007 5008 5029 5033 5040 5050 8028	1037 1042 1057 1079 1124 1125 1148 1151 1175 1178 1186 1189 1190 1208 1224 1225 1269 5014 5033 5050 8028

TIME CONDITIONS	1191 1269 5015 5033 8020		1269 5029 5033 8000	1191 1269 5033 8008
FEEDBACK	1028 1088		5001 8015	1028 5014
DEMANDS	1101 1116 1148 1154 1164 1190 5033 8021	1018 1123 1124 1171 1202 5043 5048 8019	1049 1055 1056 1061 1097 1100 1101 1107 1110 1119 1123 1124 1182 1186 1190 1223 1261 5003 5007 5020 5026 5029 5033 5036 5039 8000 8027	1000 1065 1079 1080 1097 1124 1148 1160 1163 1164 1165 1186 1190 1261 1263 1273 5003 5014 5022 5033 8027
MOBILITY	1052 1148 1269	1007 1124	1052 1097 1110 1124 1269 5007 8000 8016	1052 1079 1097 1124 1148 1269 8001
SUPERVISION	1030 1101 1122 1148 1191 1209 1216 1232	1202 1209 5027 5048	1009 1031 1068 1092 1101 1103 1114 1122 1126 1153 1155 1175 1182 1187 1204 1209 1216 1232 1233 1259 5007 5020 5036 8003	1114 1125 1148 1163 1175 1191 1216 1221 1233 5022
WORK GROUP	1073 1101 1209 5033 8020	1209 1214	1073 1101 1107 1209 1258 5001 5007 5033 5050 8003	1008 1073 1263 5033 5050
STATUS AND PRESTIGE	1015 1075 1269 5015	1123 1124 1162 1253	1037 1072 1075 1123 1124 1162 1253 1269	1037 1080 1113 1124 1144 1162 1253 1269 5014
TRAINING		1202 1220	1017 1023 1024 1029 1035 1046 1074 1103 1112 1135 1205 1217 1270 1272 1274 5001 5020 5029 5030 5036 5050 8022	1035 1045 1047 1113 1217 5050 8004
TECHNOLOGY	1164 1178 8020	1064 1178 1214 5043 5048	1014 1056 1178 1212 5029 5045 8033	1064 1164 1165 1178 1245 5014
JOB CHANGES	1154 1190 5016 8021	8019	1049 1053 1190 5017 8000 8027	1053 1190 8027
ORGANIZATION CHANGES		5024	1095 5001 5008 5011 5029 5030 5040 5050	1002 1095 1245 5011 5050
TECHNOLOGY CHANGES	1154 5033	1156	1014 1056 1119 1156 5017 5030 5033	5033
ENVIRONMENTAL CHANGES		1064	1152	1064
MEMBER CHARACTERISTICS	1015 1052 1073 1088 1099 1101 1148 1178 1191 1196 1197 1209 1216 1218 1219 1231 1232 1269 5015 8021	1007 1042 1124 1150 1162 1169 1171 1178 1202 1208 1209 1227 1234 1253 5043 5048	1014 1016 1026 1037 1042 1043 1052 1053 1061 1071 1073 1089 1093 1096 1101 1105 1107 1110 1111 1124 1136 1140 1153 1157 1162 1178 1186 1192 1196 1197 1203 1204 1208 1209 1216 1231 1232 1234 1253 1269 5003 5007 5011 5017 5021 5029 5031 5040 5045 8015	1000 1005 1006 1012 1032 1033 1037 1042 1052 1053 1057 1065 1073 1086 1089 1099 1113 1124 1136 1144 1148 1149 1151 1162 1163 1178 1186 1191 1192 1208 1216 1218 1221 1236 1253 1269 5003 5011 5014 5022 8008
DECISION MAKING	1052 1122 1190		1052 1071 1122 1130 1190 5007 5020	1052 1189 1190

TABLE 11: INDEPENDENT VARIABLES AND WORK CHARACTERISTICS: DESIGN

Work Characteristics

INDEPENDENT VARIABLES	JOB ENLARGEMENT	RATIONALIZATION	OTHER
ORGANIZATIONAL FACTORS	1262		
CLIMATE	1206	1252 1268	1206
FUNCTIONAL DIVISION	1262		
FORMALIZATION OF POLICY, RULES	1108		
HIERARCHY	1255 1262 8021	5010	
POWER BASE		5010	
INTERDEPENDENCE OF UNITS			
REWARD STRUCTURE	1255 1262 5017	1252 5010	5017
ORGANIZATIONAL CHARACTERISTICS	1262	1252 5010	
ORGANIZATIONAL ENVIRONMENT	1262	5010	
CENTRALIZATION-DECENTRALIZATION			
UNION RECOGNITION	1262	5010	
OCCUPATIONAL AND JOB CHARACTERISTICS TYPE	1040 1190 8037	5010	
TIME CONDITIONS			
FEEDBACK	1108 1262		

DEMANDS	1003 1004 1022 1040 1050 1097 1108 1190 1255 1262 8005 8006 8019 8021 8023 8027 8029 8030 8037	1084 5010	
MOBILITY	1097 1262 8029		
SUPERVISION	1003 1206 1262	1084 5010	1206
WORK GROUP	1255 1262 8023 8030 8037		
STATUS AND PRESTIGE	1262 8037		
TRAINING			
TECHNOLOGY	1040 1262 8005 8006 8029	5010	
JOB CHANGES	1022 1040 1048 1050 1108 1190 1255 5017 8005 8006 8019 8021 8023 8027 8029 8030 8037		5016 5017
ORGANIZATION CHANGES	1003		
TECHNOLOGY CHANGES	1003 5017		5017
ENVIRONMENTAL CHANGES			
MEMBER CHARACTERISTICS	1003 1004 1048 1255 1262 5017 8021	1268 5010	5017
DECISION MAKING	1108 1190 1206 1262		1206

TABLE 12: INDEPENDENT VARIABLES AND TECHNICAL CHARACTERISTICS: PROCESS

Technical Characteristics

INDEPENDENT VARIABLES	BATCH	MASS	CONTINUOUS PROCESS
ORGANIZATIONAL FACTORS	1078 1091 5040 5049	1251 5041	5026 5049
CLIMATE	1012 1104 1273 5003 5007 5028 5040	1014 1059 1104 1249 1252 1273 5003 5041 8020 8036	1238 1268 5003 5026
FUNCTIONAL DIVISION		1226 5020 8020	5026 5029
FORMALIZATION OF POLICY, RULES	1273	1273	5026 8000
HIERARCHY	1098 5003 5004 5040 8021	1119 5002 5003 5004 5010 5041	1023 1238 5003 5004 5029
POWER BASE	1098 1273 5037	1273 5010	1023 8014
INTERDEPENDENCE OF UNITS	1273	1273	8025
REWARD STRUCTURE	1098 1188 5006 5007 5009 5028 5037 5039	1109 1188 1252 5002 5010 5038 5039 5041 8013	1023 1188 5009 5039 5047 8013
ORGANIZATIONAL CHARACTERISTICS	1091 1187 5009 5023 5035 5043 5049 8035	1252 5010 5023 5039 5041	5003 5039 5043 5049
ORGANIZATIONAL ENVIRONMENT	5009 5028	1119 5002 5010 8026	5009
CENTRALIZATION-DECENTRALIZATION			
UNION RECOGNITION		5010	
OCCUPATIONAL AND JOB CHARACTERISTICS			
TYPE	1214 5007 5023 5035 5040 5043 5049 8035	1056 1119 1226 5010 5023 5035 5038 5041 5043	1247 5029 5035 5043 5049 8037
TIME CONDITIONS		1145 5002 5041 8028	1025 1246 1247 1260 5029 5034 8000

FEEDBACK	5006 5009	1059 8026	5009
DEMANDS	1010 1049 1097 1273 5003 5004 5006 5007 5009 5028 5032 5037 5039 5043 5049 8018 8021	1010 1022 1056 1084 1119 1134 1158 1251 1273 5002 5003 5004 5010 5020 5032 5038 5039 5043 8005 8013 8019 8023 8026	1004 1239 5003 5004 5009 5026 5029 5032 5039 5043 5049 8000 8006 8013 8029 8030 8034 8037
MOBILITY	1097 5007 5046	1142 1145 5046 8026	8000 8002 8029
SUPERVISION	1104 1187 1204 5007 5009 8035	1068 1084 1092 1104 1145 5010 5020 5038 8013 8026	5009 5047 8013 8024 8025
WORK GROUP	1066 1214 5004 5007 5009 5037 8035	1059 1109 5004 8012 8020 8023 8032 8036	1238 1246 5004 5009 5047 8002 8030 8037
STATUS AND PRESTIGE	5004 5023 5051 8035	5004 5023 5051	5004 5051 8037
TRAINING	5030	1059 5020 8026 8032	1023 5029
TECHNOLOGY	1010 1091 1214 5004 5032 5035 5043 5046 5049 5051	1010 1014 1056 1063 1109 1147 1158 1226 1251 5002 5004 5010 5032 5035 5043 5046 5051 8005 8012 8013 8020	1064 1238 1239 1240 5004 5029 5032 5035 5043 5049 5051 8006 8013 8014 8029 8033
JOB CHANGES	1049 5016 5037 8018 8021	1022 1141 8005 8019 8023	1260 8000 8006 8029 8030 8034 8037
ORGANIZATION CHANGES	1002 5006 5009 5030 5037 5040 5049 5051 8035	5051	5009 5029 5049 5051 8024
TECHNOLOGY CHANGES	5030 5037 5046 5051	1014 1056 1119 5046 5051	5047 5051
ENVIRONMENTAL CHANGES	1117	1117 5002	1064
MEMBER CHARACTERISTICS	1012 1078 1117 1169 1172 1204 5003 5004 5007 5009 5023 5028 5040 5043 5046 5049 8021	1014 1041 1070 1109 1117 1134 1145 1230 1251 5002 5003 5004 5010 5023 5038 5041 5043 5046 8013 8026	1004 1246 1247 1268 5003 5004 5009 5029 5034 5043 5049 8013 8034
DECISION MAKING	1130 5007	1109 5020	

TABLE 13: INDEPENDENT VARIABLES AND TECHNICAL CHARACTERISTICS: TYPE

Technical Characteristics

INDEPENDENT VARIABLES	TRADITIONAL	INDUSTRIAL	POST-INDUSTRIAL
ORGANIZATIONAL FACTORS	1091 5040 5049	1078 1251 5041	5026 5049
CLIMATE	1012 1273 5003 5007 5028 5040	1014 1051 1059 1104 1249 1252 1273 5003 5025 5041 8020 8036	1156 1238 5003 5026
FUNCTIONAL DIVISION	1226	1226 5020 8020	1156 1226 5026 5029
FORMALIZATION OF POLICY, RULES	1273	1273	1156 1165 5026 8000
HIERARCHY	1098 5003 5004 5011 5040 8021	1119 5002 5003 5004 5010 5041	1023 1238 5003 5004 5029
POWER BASE	1098 1118 1176 1273 5037	1131 1176 1273 5010	1023 1176 8014
INTERDEPENDENCE OF UNITS	1273	1273	8025
REWARD STRUCTURE	1011 1098 1188 5006 5007 5009 5028 5037 5039	1188 1252 5002 5009 5010 5025 5038 5039 5041 8013	1023 1188 5009 5039 5047 8013
ORGANIZATIONAL CHARACTERISTICS	1091 1187 5009 5039 5043 5049 8035	1252 5009 5010 5039 5043	5009 5039 5043 5049
ORGANIZATIONAL ENVIRONMENT	5009 5028	1119 5002 5009 5010 8026	5009
CENTRALIZATION-DECENTRALIZATION			
UNION RECOGNITION		5010	
OCCUPATIONAL AND JOB CHARACTERISTICS			
TYPE	1176 1214 1226 5007 5035 5040 5043 5049 8035	1040 1056 1119 1176 1226 5010 5035 5038 5041 5043 5048	1176 1226 1247 5029 5035 5043 5049 8037
TIME CONDITIONS		1145 5002 5041 8020	1025 1246 1247 5029 5034 8000
FEEDBACK	5006 5009	1059 5009 8026	5009

DEMANDS	1049 1097 1250 1273 5003 5004 5006 5007 5009 5028 5037 5039 5043 5049 8018 8021	1040 1056 1084 1149 1134 1158 1250 1251 1273 5002 5003 5004 5009 5010 5020 5025 5032 5038 5039 5043 5048 8005 8013 8019 8023 8026	1084 1154 1165 1239 5003 5004 5009 5026 5029 5032 5039 5043 5049 8000 8006 8013 8029 8030 8034 8037
MOBILITY	1097 5007 5046	1142 1145 5046 8026	8000 8002 8029
SUPERVISION	1011 1187 1204 5007 5009 8035	1068 1084 1092 1104 1126 1131 1145 5009 5010 5020 5038 5048 8013 8026	1084 5009 5047 8013 8024 8025
WORK GROUP	1011 1066 1214 5004 5007 5009 5037 8035	1059 5004 5009 8012 8020 8023 8032 8036	1238 1246 5004 5009 5047 8002 8030 8037
STATUS AND PRESTIGE	5004 5051 8035	5004 5051	5004 5051 8037
TRAINING	5030	1059 5020 8026 8032	1023 5029
TECHNOLOGY	1091 1214 1226 1250 5004 5035 5043 5046 5049 5051	1014 1040 1056 1063 1147 1158 1226 1250 1251 5002 5004 5010 5032 5035 5043 5046 5048 5051 8005 8012 8013 8020	1063 1064 1165 1226 1238 1239 1240 1245 5004 5029 5032 5035 5043 5049 5051 8006 8013 8014 8029
JOB CHANGES	1049 5016 5037 8018 8021	1040 1048 1141 8005 8019 8023	1154 8000 8006 8029 8030 8034 8037
ORGANIZATION CHANGES	1002 5006 5009 5011 5030 5037 5040 5049 5051 8035	5009 5051	1245 5009 5029 5049 5051 8024
TECHNOLOGY CHANGES	5030 5037 5046 5051	1014 1056 1119 5046 5051	1154 1156 5047 5051
ENVIRONMENTAL CHANGES	1117	1117 5002	1064
MEMBER CHARACTERISTICS	1012 1117 1169 1172 1204 5003 5004 5007 5009 5011 5028 5040 5043 5046 5049 8021	1014 1041 1048 1070 1078 1117 1134 1145 1227 1230 1251 5002 5003 5004 5009 5010 5038 5041 5043 5046 5048 8013 8026	1246 1247 5003 5004 5009 5029 5034 5043 5049 8013 8034
DECISION MAKING	1130 5007	5020	

TABLE 14: INDEPENDENT VARIABLES AND EMPLOYEE CHARACTERISTICS: AGE

Employee Characteristics

INDEPENDENT VARIABLES	YOUNG	MIDDLE	OLD
ORGANIZATIONAL FACTORS	1016 1052 1178 1231 5049	1016 1178 1231 5049	1178 1231 5049
CLIMATE	1014 1077 1268 5028 5044	1014 5028	1125 1268 5028
FUNCTIONAL DIVISION		1096 5029	
FORMALIZATION OF POLICY, RULES		1096	
HIERARCHY	1157 1192 1196 1197 1199 1216 5010 8021 8028	1096 1121 1144 1157 1192 1196 1197 1199 1216 5010 5029 8028	1121 1125 1144 1157 1192 1196 1197 1199 1216 5010 5031 8021
POWER BASE	5010	1096 5010	5010
INTERDEPENDENCE OF UNITS		1096	
REWARD STRUCTURE	1052 1069 1081 1178 1215 5009 5010 5028 8013	1069 1071 1178 1215 5010 5028 8013	1069 1178 1215 5010 5028 5039 8013
ORGANIZATIONAL CHARACTERISTICS	1000 1015 1052 1054 1101 1199 1269 5009 5010 5049	1015 1096 1101 1199 1269 5010 5049	1000 1015 1101 1125 1199 5010 5039 5049
ORGANIZATIONAL ENVIRONMENT	1053 1178 1269 5009 5010 5028 8026	1053 1178 1269 5010 5028 8026	1053 1178 5010 5028
CENTRALIZATION-DECENTRALIZATION			
UNION RECOGNITION	1178 5010	1178 5010	1178 5010
OCCUPATIONAL AND JOB CHARACTERISTICS			
TYPE	1015 1079 1111 1157 1171 1178 1222 1269 5010 5049 8028	1015 1079 1111 1157 1171 1178 1222 1225 1269 5010 5029 5049 8028	1015 1042 1125 1157 1171 1178 1193 1222 5010 5049
TIME CONDITIONS	1128 1145 1246 1269 5034	1128 1246 1250 1269 5029 5034	1128 1246 5034

FEEDBACK	5009 8026	8026	
DEMANDS	1000 1079 1081 1084 1101 1128 1171 1222 1223 5009 5010 5028 5044 5049 8013 8021 8026	1079 1101 1128 1171 1222 1223 5010 5028 5029 5049 8013 8026	1000 1101 1128 1171 1222 1223 5010 5028 5039 5049 8013 8021
MOBILITY	1052 1079 1145 1269 8026	1079 1269 8026	
SUPERVISION	1084 1101 1145 1216 1222 5009 5010 8013 8026	1101 1216 1222 5010 8013 8026	1101 1125 1216 1222 5010 8013
WORK GROUP	1101 1246 5009	1101 1246	1101 1246
STATUS AND PRESTIGE	1015 1162 1269	1015 1144 1162 1269	1015 1144 1162
TRAINING	1045 1047 8026	1047 5029 8004 8026	
TECHNOLOGY	1014 1178 5010 5049 8013	1014 1063 1178 5010 5029 5049 8013	1178 5010 5049 8013
JOB CHANGES	1053 5016 8021	1053 1260 5016	1053 5016 8021
ORGANIZATION CHANGES	5009 5049	5029 5049	5049
TECHNOLOGY CHANGES	1014	1014	
ENVIRONMENTAL CHANGES			
MEMBER CHARACTERISTICS	1000 1014 1015 1016 1032 1052 1053 1101 1111 1145 .157 1159 1162 1169 1170 1171 1172 1178 1185 1192 1196 1197 1216 1219 1222 1231 1235 1246 1268 1269 5009 5010 5028 5034 5044 5049 8013 8021 8026	1014 1015 1016 1032 1043 1053 1071 1096 1101 1111 1144 1157 1159 1162 1169 1170 1171 1172 1178 1181 1185 1192 1196 1197 1216 1219 1222 1231 1246 1269 5010 5028 5029 5034 5049 8013 8026	1000 1015 1042 1043 1053 1101 1144 1157 1159 1162 1169 1170 1171 1172 1178 1181 1183 1184 1192 1196 1197 1216 1222 1231 1246 1268 5010 5028 5031 5034 5049 8013 8021
DECISION MAKING	1052 1127	1071	1127

TABLE 15: INDEPENDENT VARIABLES AND EMPLOYEE CHARACTERISTICS: TENURE

Employee Characteristics

INDEPENDENT VARIABLES	SHORT	MEDIUM	LONG
ORGANIZATIONAL FACTORS	1052 5049	1016 1020 1052 1163 5049	1016 1020 1163 1251 5049
CLIMATE	1057 1077 1099 1268 5028	1012 1057 1099 5028 8020	1057 1099 1125 5028
FUNCTIONAL DIVISION		1096 5029 8020	1105 5029
FORMALIZATION OF POLICY, RULES	1057	1057 1096	1057
HIERARCHY	1057 1093 1110 1157 1216 5010 8021 8028	1057 1093 1096 1121 1144 1157 1216 5010 5029 8028	1057 1093 1105 1121 1125 1144 1157 1216 5010 5029 8028
POWER BASE	5010 5037	1096 1163 5010 5037	1105 1163 5010 5037 8016
INTERDEPENDENCE OF UNITS		1096	
REWARD STRUCTURE	1052 5010 5028 5037 5038	1052 5010 5028 5037 8013	1071 5010 5028 5037 5039 8013
ORGANIZATIONAL CHARACTERISTICS	1000 1015 1052 1057 1101 5010 5049	1000 1015 1052 1057 1096 1101 5010 5049	1000 1015 1057 1101 1125 5010 5039 5049
ORGANIZATIONAL ENVIRONMENT	5010 5028	1053 5010 5028	1053 5010 5028
CENTRALIZATION-DECENTRALIZATION			
UNION RECOGNITION	5010	5010	5010
OCCUPATIONAL AND JOB CHARACTERISTICS			
TYPE	1015 1057 1079 1157 5010 5038 5049 8028	1015 1057 1079 1157 5010 5029 5049 8028	1015 1057 1079 1125 1157 5010 5029 5049 8028
TIME CONDITIONS	1145 5034	1025 1145 5029 5034 8020	1025 1260 5029 5034
FEEDBACK			

DEMANDS	1000 1079 1082 1101 1110 1134 5010 5028 5037 5038 5049 8021 8031	1000 1022 1079 1101 1134 1163 5010 5028 5029 5037 5049 8013	1000 1079 1101 1134 1163 1251 5010 5028 5029 5037 5039 5049 8013
MOBILITY	1052 1079 1110 1145	1052 1079 1145	1079 1142 8016
SUPERVISION	1101 1145 1216 5010 5038	1092 1101 1145 1163 1216 5010 8013	1101 1105 1125 1163 1216 5010 8013
WORK GROUP	1101 5037	1101 5037 8020	1101 5037
STATUS AND PRESTIGE	1015	1015 1144	1015 1144
TRAINING	8031	1045 5029 8004	5029
TECHNOLOGY	1147 5010 5049	[illegible] 5029 5049 8013 8020	1063 1147 1251 5010 5029 5049 8013
JOB CHANGES	5037 8021	1022 1048 1053 5037	1053 1260 5037
ORGANIZATION CHANGES	5037 5049	5029 5037 5049	5029 5037 5045
TECHNOLOGY CHANGES	5037	5037	5037
ENVIRONMENTAL CHANGES			
MEMBER CHARACTERISTICS	1000 1015 1032 1052 1057 1082 1083 1093 1099 1101 1110 1134 1145 1157 1216 1218 1227 1268 5010 5028 5034 5038 5049 8021 8031	1000 1012 1015 1016 1032 1048 1052 1053 1057 1093 1096 1099 1101 1129 1134 1144 1145 1157 1163 1181 1216 1218 5010 5028 5029 5034 5049 8013	1000 1015 1016 1053 1057 1071 1083 1093 1099 1101 1105 1134 1144 1157 1163 1181 1216 1218 1251 5010 5028 5029 5034 5049 8013
DECISION MAKING	1052	1052	1071

TABLE 16: INDEPENDENT VARIABLES AND EMPLOYEE CHARACTERISTICS: EDUCATION

Employee Characteristics

INDEPENDENT VARIABLES	<HS	HS	COLLEGE	POST-GRADUATE
ORGANIZATIONAL FACTORS		1016 1178	1016 1036 1178	1016 1052 1058
CLIMATE	1077 5003 5028	1238 5003 5028 8020	1160 1273 5003	1057 1160
FUNCTIONAL DIVISION	5029	5029 8020	1096 5029	
FORMALIZATION OF POLICY, RULES			1001 1065 1096 1113 1136 1149 1221 1273	1001 1057 1221
HIERARCHY	1157 1192 1255 5003 5010 5029 8028	1093 1110 1157 1192 1196 1197 1198 1199 1238 1255 5003 5010 5029	1007 1062 1093 1096 1098 1110 1144 1157 1192 1196 1197 1198 1199 1255 5003 5010 5029 8007 8009	1007 1057 1062 1192
POWER BASE	5010	5010	1005 1096 1098 1160 1273 5010 8016	1013 1160
INTERDEPENDENCE OF UNITS			1096 1273	
REWARD STRUCTURE	1255 5010 5028 8013	1178 1255 5010 5028	1007 1098 1178 1255 5010 8008	1007 1052
ORGANIZATIONAL CHARACTERISTICS	5010	1101 1199 1269 5010	1000 1062 1096 1101 1199 1269 5010	1052 1057 1062 1102 1269
ORGANIZATIONAL ENVIRONMENT	5010 5028 8026	1053 1178 1269 5010 5028 8028	1053 1178 1221 1269 5010 8026	1053 1221 1269
CENTRALIZATION-DECENTRALIZATION			1001	1001
UNION RECOGNITION	5010	1178 5010	1178 5010	
OCCUPATIONAL AND JOB CHARACTERISTICS				
TYPE	1111 1157 1208 1213 1222 5010 5029 8028	1111 1157 1178 1189 1198 1208 1213 1222 1269 5010 5029	1111 1157 1178 1190 1198 1208 1213 1225 1269 5010 5029	1057 1225 1269
TIME CONDITIONS	1145 5029 5034	1145 1269 5029 5034 8020	1269 5029 5034 8008	1269

FEEDBACK	8026	8026	8026	
DEMANDS	1022 1164 1222 1255 5003 5010 5028 5029 8013 8026	1101 1110 1164 1222 1239 1255 5003 5010 5028 5029 8026	1000 1065 1101 1110 1160 1164 1190 1255 1273 5003 5010 5029 8026	1080 1160 1164 5032
MOBILITY	1145 8026	1110 1145 1269 8026	1007 1110 1269 8016 8026	1007 1052 1269
SUPERVISION	1145 1222 5010 8013 8026	1101 1145 1222 5010 8026	1101 1221 5010 8026	1221
WORK GROUP	1255	1101 1238 1255 8020	1008 1101 1255	
STATUS AND PRESTIGE		1269	1113 1144 1269	1080 1269
TRAINING	5029 8026	1047 5029 8026	1047 1113 5029 8004 8026	1045 1047
TECHNOLOGY	1164 5010 5029 8013	1164 1178 1238 1239 5010 5029 8020	1164 1178 5010 5029	1164 5032
JOB CHANGES	1022 1255 5016	1053 1255 5016	1053 1190 1255 5016	1053 5016
ORGANIZATION CHANGES	5029	1095 5029	1095 5029	1095
TECHNOLOGY CHANGES				
ENVIRONMENTAL CHANGES				
MEMBER CHARACTERISTICS	1043 1111 1145 1157 1180 1192 1208 1219 1222 1235 1255 5003 5010 5028 5029 5034 8013 8026	1016 1026 1043 1053 1089 1093 1101 1110 1111 1145 1157 1178 1180 1192 1196 1197 1208 1219 1222 1255 1269 5003 5010 5028 5029 5034 8026	1000 1005 1006 1007 1016 1026 1032 1043 1053 1065 1086 1089 1093 1096 1101 1110 1111 1113 1136 1144 1149 1157 1178 1180 1192 1196 1197 1208 1219 1221 1255 1269 5003 5010 5029 5034 8008 8026	1007 1016 1052 1053 1057 1089 1192 1221 1269
DECISION MAKING	1127	1127 1189	1190	1052

TABLE 17: INDEPENDENT VARIABLES AND EMPLOYEE CHARACTERISTICS: SEX

Employee Characteristics

INDEPENDENT VARIABLES	MALE	FEMALE
ORGANIZATIONAL FACTORS	1016 1052 1091 1116 1163 1231 1251 5041 5049	1052 1116 1163 1231
CLIMATE	1012 1014 1077 1125 1175 1201 1205 1206 1238 1249 1273 5015 5028 5041 5044	1014 1175 1205 1206 1252 1268 1273 5015 5028 5044
FUNCTIONAL DIVISION	1096 5015 5020 5029	5015
FORMALIZATION OF POLICY, RULES	1096 1136 1205 1273	1149 1205 1273
HIERARCHY	1093 1096 1110 1119 1121 1125 1132 1157 1161 1173 1191 1192 1200 1205 1216 1228 1238 1255 5004 5010 5011 5014 5015 5029 5031 5041 8028	1093 1119 1132 1191 1192 1205 1216 1228 1255 5004 5014 5015 8021 8028
POWER BASE	1096 1163 1273 5010 5015 5037 8015 8016	1163 1273 5015
INTERDEPENDENCE OF UNITS	1096 1116 1273	1116 1273
REWARD STRUCTURE	1052 1069 1081 1109 1188 1201 1202 1255 5006 5009 5010 5017 5028 5037 5038 5039 5041 5047 8013	1021 1052 1081 1202 1252 1255 5006 5017 5027 5028 5038 8013
ORGANIZATIONAL CHARACTERISTICS	1000 1009 1015 1038 1052 1054 1091 1096 1101 1102 1115 1116 1125 1173 1187 1269 5009 5010 5014 5015 5023 5039 5043 5049	1000 1015 1052 1101 1115 1116 1187 1252 5014 5015 5043
ORGANIZATIONAL ENVIRONMENT	1053 1119 1201 1202 1269 5009 5010 5028 5036	1053 1119 1202 5028
CENTRALIZATION-DECENTRALIZATION	1146	
UNION RECOGNITION	5010	
OCCUPATIONAL AND JOB CHARACTERISTICS		
TYPE	1015 1037 1055 1056 1111 1119 1123 1124 1125 1151 1157 1175 1186 1193 1208 1213 1214 1222 1224 1225 1247 1269 5010 5014 5018 5019 5023 5029 5038 5041 5043 5048 5049 8028	1015 1018 1037 1056 1111 1119 1175 1186 1193 1208 1222 1224 1243 5014 5038 5043 8028

TIME CONDITIONS	1124 1145 1174 1191 1246 1247 1269 5015 5029 5034 5041	1128 1174 1191 5015
FEEDBACK	5001 5006 5009 5014 8015	5006 5014
DEMANDS	1000 1055 1056 1080 1081 1084 1101 1110 1116 1119 1123 1124 1128 1138 1158 1163 1164 1186 1202 1222 1223 1239 1251 1255 1263 1273 5004 5006 5009 5010 5014 5020 5028 5029 5036 5037 5038 5039 5043 5044 5048 5049 8013 8031	1000 1018 1056 1081 1082 1101 1116 1119 1128 1163 1164 1186 1202 1222 1255 1263 1273 5004 5006 5014 5028 5038 5043 5044 8013 8019 8021 8023
MOBILITY	1052 1110 1124 1142 1145 1269 5046 8001 8016	1052
SUPERVISION	1009 1031 1068 1084 1092 1101 1125 1126 1145 1163 1166 1171 1187 1191 1202 1206 1210 1216 1222 1233 1271 5009 5010 5020 5036 5038 5047 5048 8013	1101 1163 1175 1187 1191 1202 1206 1216 1222 1233 5027 5038 8013
WORK GROUP	1101 1109 1214 1238 1246 1255 1258 1263 5001 5004 5009 5037 5047	1101 1255 1263 5004 8022
STATUS AND PRESTIGE	1015 1037 1080 1123 1124 1137 1162 1253 1269 5004 5014 5015 5019 5023	1015 1037 5004 5014 5015
TRAINING	1017 1047 1074 1202 1205 1220 1272 5001 5020 5029 5036 8004 8017 8031	1047 1202 1205 1272
TECHNOLOGY	1014 1056 1064 1091 1109 1147 1158 1164 1214 1238 1239 1251 5004 5010 5014 5029 5043 5046 5048 5049 8013 8033	1014 1056 1147 1164 5004 5014 5043 8013
JOB CHANGES	1053 1166 1255 5016 5017 5037	1048 1053 1255 5016 5017 8019 8021 8023
ORGANIZATION CHANGES	5001 5006 5009 5011 5029 5037 5049	5006
TECHNOLOGY CHANGES	1014 1056 1119 5017 5037 5046 5047	1014 1056 1119 5017
ENVIRONMENTAL CHANGES	1064 1117	
MEMBER CHARACTERISTICS	1000 1012 1014 1015 1016 1027 1032 1037 1043 1052 1053 1070 1086 1089 1093 1094 1096 1101 1109 1110 1111 1117 1124 1129 1136 1145 1151 1157 1162 1163 1172 1180 1181 1183 1184 1186 1191 1192 1201 1202 1208 1211 1216 1219 1222 1227 1231 1234 1246 1247 1251 1253 1254 1255 1256 1269 5004 5009 5010 5011 5014 5015 5017 5018 5019 5023 5028 5029 5031 5034 5038 5041 5043 5044 5046 5048 5049 8013 8015 8031	1000 1006 1014 1015 1037 1041 1048 1052 1053 1070 1082 1089 1093 1101 1111 1149 1163 1169 1170 1172 1180 1183 1184 1185 1186 1191 1192 1202 1208 1211 1216 1222 1227 1231 1232 1236 1255 1268 5004 5014 5015 5017 5028 5038 5043 5044 8013 8021
DECISION MAKING	1052 1109 1127 1177 1206 5020	1052 1127 1177 1206 1244

TABLE 18: INDEPENDENT VARIABLES AND EMPLOYEE CHARACTERISTICS: RACE

Employee Characteristics

INDEPENDENT VARIABLES	*WHITE*	*BLACK*	*OTHER*
ORGANIZATIONAL FACTORS			1178
CLIMATE	5044	1077 5044	8020
FUNCTIONAL DIVISION			8020
FORMALIZATION OF POLICY, RULES			
HIERARCHY	1255 5010		1157
POWER BASE	5010 5037		
INTERDEPENDENCE OF UNITS			
REWARD STRUCTURE	1069 1255 5009 5010 5037 8013	1011 1202	1178 1215
ORGANIZATIONAL CHARACTERISTICS	1269 5009 5010		
ORGANIZATIONAL ENVIRONMENT	1269 5009 5010	1202	1178
CENTRALIZATION-DECENTRALIZATION			
UNION RECOGNITION	5010		1178
OCCUPATIONAL AND JOB CHARACTERISTICS			
TYPE	1213 1214 1257 1269 5010		1157 1178 1213
TIME CONDITIONS	1269 5034		8020

FEEDBACK	5009		
DEMANDS	1080 1255 5009 5010 5037 5044 8013	1202 5044 8031	
MOBILITY	1269		
SUPERVISION	5009 5010 8013	1011 1202	1092
WORK GROUP	1214 1255 5009 5037	1011	8020
STATUS AND PRESTIGE	1080 1253 1257 1269		1162
TRAINING	8017	1202 8031	
TECHNOLOGY	1214 5010 8013		1178 8020 8033
JOB CHANGES	1255 5016 5037		
ORGANIZATION CHANGES	5009 5037		
TECHNOLOGY CHANGES	5037		
ENVIRONMENTAL CHANGES			
MEMBER CHARACTERISTICS	1183 1184 1211 1253 1255 1266 1269 5009 5010 5034 5044 8013	1044 1183 1184 1202 1211 1254 5044 8031	1157 1162 1178 1185 1266
DECISION MAKING			

TABLE 19: QUALITY OF WORKING LIFE CRITERIA AND ORGANIZATIONAL CHARACTERISTICS: SIZE OF SITE

Organizational Characteristics

QUALITY OF WORKING LIFE CRITERIA	SMALL	MEDIUM	LARGE
1. ALIENATION	1001 1013 1049 1128 1178 1231 1262 5006 5008 5016 5017 5023 8011 8029	1001 1015 1068 1178 1181 1207 1231 1252 5006 5008 5016 5017 5029 5041	1015 1063 1079 1084 1114 1143 1149 1150 1154 1178 1181 1191 1202 1207 1231 1248 5008 5010 5016 5017 5020 5023 5041 5049 8000
2. HEALTH AND SAFETY	1049 1180 1262 5006 5017	1027 1181 5006 5017 5029 5051	1114 1123 1126 1142 1144 1154 1180 1181 1229 1248 5001 5010 5017 5020 5027 5034 5051
3. ECONOMIC SECURITY	1146 1178 1187 1262 5006 5008 5017	1010 1102 1178 1181 1195 1252 5006 5008 5017 5029 5041 5051	1003 1061 1064 1075 1079 1096 1102 1114 1126 1143 1154 1178 1181 1191 1195 1202 5008 5010 5017 5027 5041 5049 5051
4. SELF-ESTEEM	1001 1138 1238 1239 5006 5008 5016 5017	1001 1010 1022 1252 5006 5008 5016 5017 5029 5041 5051	1003 1028 1061 1063 1064 1066 1070 1075 1084 1087 1096 1114 1149 1154 1248 5001 5008 5010 5016 5017 5020 5034 5041 5051 8000
5. SELF-ACTUALIZATION	1034 1138 5008 5017	1010 1127 1194 5008 5017	1003 1061 1071 1075 1084 1127 1136 1144 1154 5006 5010 5017 5049
A. LEARNING AND GROWTH	1049 1138 1238 1239 1262 5006 5016 5017 8029	1195 5006 5016 5017 5029 5051	1050 1075 1096 1126 1154 1195 1202 1206 5010 5016 5017 5020 5051 8000
B. USING EXISTING COMPETENCE	1026 1138 1238 1262 5006 5008 5016	1194 1195 1252 5006 5008 5016 5029	1064 1066 1075 1095 1096 1191 1195 1206 1248 5001 5008 5010 5016 5020 8000
6. WORK ENVIRONMENT			
A. PHYSICAL	1026 1262 5006	5006 5041	1063 1164 1248 5020 5041 5049 8000
B. SOCIAL	1001 1026 1034 1049 1054 1090 1116 1146 1187 1238 1243 1262 5006 5008 5017	1001 1010 1116 1131 1238 1243 5006 5008 5017 5029 5041 5051	1003 1054 1063 1066 1070 1071 1073 1075 1087 1114 1116 1136 1154 1155 1191 1202 1206 1243 1248 1258 1270 5001 5008 5010 5017 5020 5025 5034 5041 5045 5049 5051 8000 8024 8032

7. *CONTROL AND INFLUENCE*	1001 1026 1034 1048 1049 1115 1116 1138 1146 1163 1177 1189 1231 1232 1238 1239 1243 1244 1262 5006 5008 5016 5017 5029	1001 1060 1115 1116 1122 1127 1131 1161 1165 1194 1207 1231 1232 1243 1244 5006 5009 5016 5017 5029 5041 5051	1003 1050 1060 1061 1063 1066 1071 1073 1075 1084 1087 1096 1114 1115 1116 1122 1126 1127 1136 1143 1149 1154 1163 1164 1202 1206 1207 1231 1232 1243 1244 1248 1258 1270 5001 5006 5010 5016 5017 5020 5025 5041 5045 5049 5051 8000 8024
8. *ORGANIZATIONAL ENCLOSURE*	1034 1048 1136 1178 1189 1231 1238 1239 1243 1244 1262 5006 5008 5016 5017	1010 1092 1122 1127 1178 1189 1194 1231 1243 1244 1252 5006 5008 5016 5017 5029 5041 5051	1055 1070 1079 1086 1087 1093 1122 1127 1136 1143 1144 1178 1227 1231 1243 1244 5001 5008 5016 5017 5020 5034 5041 5051
9. *CAREER ASPIRATIONS*	1001 5016 5017	1001 1194 5016 5017 5029 5041 5051	1050 1064 1079 1093 1096 1114 1136 1149 1154 1191 1202 5010 5016 5017 5020 5041 5051 8000
10. *EXTRA-WORK ACTIVITIES*		5029	1064 1075 1191 5010 5034 8000
A. CONSUMPTION			1025 5010 5034
B. CREATION		1010	1025 1063
C. COMMUNITY-CITIZEN INVOLVEMENT	1262		1025 1064 1075 5034
11. *HOME AND FAMILY*	1180	1242 5029	1084 1145 5010 5034 8000

TABLE 20: QUALITY OF WORKING LIFE CRITERIA AND ORGANIZATIONAL CHARACTERISTICS: SIZE OF COMPANY

Organizational Characteristics

QUALITY OF WORKING LIFE CRITERIA	SMALL	MEDIUM	LARGE
1. ALIENATION	1021 1052 1089 1107 1128 1231 1264 5008 5022 5023 5028 5038 5040 5043	1017 1052 1101 1252 5006 5008 5022 5028	1011 1021 1023 1033 1047 1049 1052 1063 1082 1083 1084 1088 1107 1108 1114 1118 1143 1154 1160 1169 1181 1188 1191 1205 1207 1208 1209 1211 1214 1218 1231 1245 1247 1248 1255 1259 1262 1264 5000 5010 5011 5022 5023 5037 5043 5049 8000 8005 8014 8026 8031
2. HEALTH AND SAFETY	1264 5007 5022 5038 5051	1014 1101 5006 5022 5051	1022 1047 1049 1069 1110 1114 1123 1124 1126 1134 1142 1144 1147 1154 1181 1209 1237 1247 1248 1262 1264 5000 5010 5022 5027 5037 5047 5051
3. ECONOMIC SECURITY	1021 1052 1089 1199 5007 5008 5028 5038 5051 8017	1052 1109 1195 1199 1252 5006 5008 5028 5051	1003 1016 1021 1023 1052 1061 1064 1072 1075 1113 1114 1126 1143 1147 1154 1161 1181 1188 1191 1192 1195 1199 1200 1208 1209 1214 1255 1262 5000 5003 5010 5012 5015 5027 5031 5036 5037 5047 5049 5051
4. SELF-ESTEEM	1107 1199 1238 1239 5007 5008 5022 5040 5051	1014 1199 1252 5006 5008 5022 5051	1003 1022 1023 1024 1061 1063 1064 1066 1075 1084 1087 1107 1113 1114 1121 1124 1154 1161 1165 1199 1200 1208 1209 1214 1218 1248 5000 5010 5015 5022 5031 5036 5047 5051 8000 8005 8016
5. SELF-ACTUALIZATION	5008 5022	5008 5022	1003 1011 1018 1023 1024 1034 1061 1072 1075 1084 1136 1144 1154 1160 1161 1200 1208 1255 5010 5012 5015 5022 5049 8014 8023
A. LEARNING AND GROWTH	1111 1199 1238 1239 5007 5028 5051	1195 1199 5006 5028 5051	1049 1050 1074 1075 1108 1111 1121 1126 1154 1160 1195 1199 1205 1206 1255 1262 5010 5011 5031 5051 8000 8022 8026 8037
B. USING EXISTING COMPETENCE	1052 1089 1111 1199 1221 1238 5007 5008	1052 1195 1199 1252 5006 5008	1052 1064 1066 1072 1075 1111 1121 1165 1191 1195 1199 1206 1218 1234 1248 1255 1262 5000 5010 5011 5012 5013 5037 5047 8000 8004 8010 8015 8023 8026

6. *WORK ENVIRONMENT*			1024 1147
A. PHYSICAL	1107 1111 5028	5006 5028	1011 1063 1107 1111 1147 1209 1214 1248 1262 5047 5049 8000
B. SOCIAL	1213	1014 1057 1101 1109 1199 5006 5008 5022 5028 5051	1003 1011 1033 1034 1046 1047 1049 1057 1063 1066 1072 1073 1074 1075 1077 1087 1090 1107 1111 1114 1125 1130 1136 1147 1152 1154 1158 1161 1165 1167 1175 1191 1199 1200 1204 1206 1208 1209 1214 1234 1245 1248 1259 1262 1263 1270 1272 1273 5000 5003 5010 5011 5015 5022 5025 5036 5037 5045 5047 5049 5051 8000 8002 8004 8022 8023 8024 8026 8027 8032 8036 8037
7. *CONTROL AND INFLUENCE*	1213 1242	1014 1052 1057 1101 1199 1212 5006 5008 5022 5028 5051	1003 1011 1012 1018 1021 1023 1033 1034 1047 1049 1050 1052 1053 1057 1061 1063 1066 1072 1073 1074 1075 1084 1087 1105 1107 1108 1111 1113 1114 1124 1126 1130 1136 1143 1152 1154 1158 1160 1161 1165 1175 1199 1200 1205 1206 1207 1208 1209 1212 1214 1216 1231 1244 1245 1247 1248 1255 1259 1261 1262 1270 1272 5000 5010 5011 5013 5015 5022 5025 5031 5036 5037 5045 5047 5049 5051 8000 8001 8002 8010 8014 8015 8022 8023 8024 8027 8036 8037
8. *ORGANIZATIONAL ENCLOSURE*	1057 1089 1107 1111 1135 1152 1175 1199 1238 1263 1273 5007 5008 5022 5028 5040 5051 8017	1017 1159 1252 5006 5008 5022 5028 5051	1000 1021 1034 1043 1046 1050 1087 1093 1107 1108 1111 1113 1134 1136 1143 1144 1167 1214 1218 1231 1232 1244 1247 1255 1259 1262 5003 5011 5013 5015 5022 5031 5036 5037 5043 5051 8037
9. *CAREER ASPIRATIONS*	1021 1052 1057 1089 1107 1111 1152 1175 1199 1212 1216 1231 1238 1239 5007 5008 5022 5028 5040 5051 8017	1014 1017 1052 1101 5022 5028 5051	1016 1050 1052 1064 1093 1107 1108 1111 1113 1114 1136 1154 1160 1188 1191 1192 1208 1209 1214 1255 1259 5000 5010 5015 5022 5036 5047 5051 8000 8001 8026
10. *EXTRA-WORK ACTIVITIES*	1000 1021 1107 1111 1215 1231 1238 1239 5008 5022 5028 5040 5043 5051	1014 1172 5028	1047 1064 1075 1158 1191 1214 1224 5010 8000
A. CONSUMPTION	1052 1107 1111 5007 5022 5028 5051		5010
B. CREATION	5007 5028		1011 1063 1158
C. COMMUNITY-CITIZEN INVOLVEMENT			1024 1047 1064 1075 1158 1262 8001
11. *HOME AND FAMILY*	1089		1047 1084 1113 1158 5010 5036 8000 8001 8004

TABLE 21: QUALITY OF WORKING LIFE CRITERIA AND ORGANIZATIONAL CHARACTERISTICS: LOCATION (UNITED STATES, UNITED KINGDOM, EUROPE, AND OTHER)

Organizational Characteristics

QUALITY OF WORKING LIFE CRITERIA	U.S.	U.K.	EUROPE	OTHER
1. ALIENATION	1001 1005 1006 1009 1013 1015 1017 1021 1033 1036 1047 1049 1052 1063 1068 1079 1082 1083 1084 1088 1089 1098 1101 1114 1118 1128 1145 1150 1154 1160 1169 1191 1201 1202 1205 1218 1231 1235 1251 1255 1259 1262 1264 5010 5011 5016 5017 5020 5022 5029 5043 5048 8005 8008 8012 8018 8029 8031 8034	1059 1107 1176 1214 1273 1262 5000 5008 5033 5037 8013 8014 8030	1017 1023 1156 1166 1181 1190 1208 1246 1247 1250 1262 1268 5002 5006 5008 5009 5018 5023 5028 5038 5040 5041 5049 5050 8000 8035	1011 1017 1178 1188 1256 5016 8009
2. HEALTH AND SAFETY	1006 1022 1047 1049 1055 1069 1080 1101 1110 1114 1123 1124 1126 1134 1142 1144 1145 1147 1154 1168 1180 1183 1184 1253 1262 1264 5001 5007 5010 5017 5020 5022 5026 5029 5030 5034 5035 5047 5048	1081 1229 1262 5000 5024 5027 5033 5037 8013	1014 1181 1246 1247 1250 1260 [illegible] 5002 5006 5009 5018 5038 5046 5051	1039 1229 8020 8028
3. ECONOMIC SECURITY	1007 1010 1021 1037 1044 1052 1061 1064 1072 1078 1079 1089 1098 1102 1114 1126 1137 1139 1145 1146 1147 1154 1161 1182 1187 1191 1192 1195 1196 1197 1198 1199 1200 [illegible] 1230 1254 1255 1262 1266 1269 5003 5007 5010 5017 5021 5029 5030 5031 5035 5036 5039 5047 5048 8017 8021 8025	1056 1059 1119 1120 1176 1214 1262 5000 5008 5012 5021 5027 5037 8013	1023 1109 1181 1208 1246 1249 1250 1262 5002 5006 5008 5015 5018 5019 5021 5028 5038 5041 5046 5049 5051 8035	1016 1178 1188 1230 1266 5021
4. SELF-ESTEEM	1001 1010 1022 1024 1028 1031 1035 1036 1044 1061 1063 1064 1066 1078 1084 1085 1097 1098 1099 1114 1121 1124 1132 1139 1141 1154 1161 1168 1182 1183 1184 1196 1197 1198 1199 1200 1218 1230 1238 1239 1251 5001 5007 5010 5016 5017 5020 5021 5022 5026 5029 5031 5034 5036 5039 5047 5048 8003 8005 8008 8016 8033 8034	1070 1107 1119 1177 1214 5000 5008 5021 5033 8013	1014 1023 1156 1190 1208 1249 1268 5006 5008 5009 5015 5018 5021 5040 5041 5046 5051 8000 8035	1020 1157 1230 5016 5021 8020 8028
5. SELF-ACTUALIZATION	1010 1018 1024 1037 1061 1071 1072 1084 1085 1098 1129 1136 1139 1144 1154 1160 1161 1182 1183 1184 1196 1200 1230 1255 5010 5017 5021 5022 5039 5048 8023	1059 1127 5008 5012 5021 8014	1023 1194 1208 1268 5008 5009 5015 5018 5021 5049	1011 1020 1230 5021 8020 8028
A. LEARNING AND GROWTH	1035 1049 1050 1074 1078 1097 1112 1121 1126 1154 1160 1182 1195 1196 1197 1198 1199 1202 1205 1206 1220 1238 1239 1255 1262 5007 5010 5011 5016 5017 5020 5029 5030 5031 5035 5048 8029 8037	1111 1119 1262 5024 8036	1190 1262 5006 5009 5028 5046 5050 5051 8000	5016 8020
B. USING EXISTING COMPETENCE	1026 1035 1037 1052 1064 1066 1072 1078 1089 1095 1097 1099 1100 1121 1129 1133 1168 1191 1195 1196 1197 1198 1199 1206 1218 1221 1234 1238 1240 1255 1262 5001 5007 5010 5011 5016 5020 5021 5029 5030 5035 5039 5047 5048 8004 8021 8023	1056 1059 1111 1119 1262 5000 5008 5012 5013 5021 5033 5037 8013	1104 1190 1194 1262 5006 5008 5009 5021 5046 5050 8000	1020 5016 5021

6. *WORK ENVIRONMENT*	1024 1147 5026			
A. *PHYSICAL*	1026 1063 1147 1164 1168 1262 5020 5035 5047	1107 1111 1176 1214 1262	1104 1246 1250 1262 5006 5028 5041 5049 8000	1011 8020
B. *SOCIAL*	1001 1010 1019 1026 1029 1031 1033 1035 1037 1038 1040 1047 1049 1057 1062 1063 1066 1071 1072 1073 1074 1077 1078 1085 1089 1094 1098 1101 1114 1116 1125 1129 1130 1131 1132 1133 1135 1136 1139 1146 1147 1148 1152 1153 1154 1161 1168 1175 1179 1182 1187 1191 1196 1197 1198 1199 1200 1202 1203 1204 1206 1210 1228 1230 1234 1238 1241 1243 1251 1258 1259 1262 1263 1267 1271 1273 5001 5003 5007 5010 5011 5017 5020 5021 5022 5025 5026 5029 5030 5034 5035 5036 5039 5045 5047 5048 8003 8004 8017 8021 8023 8024 8032 8037	1056 1059 1070 1107 1111 1119 1120 1214 1223 1262 5000 5008 5021 5024 5033 5037 8013 8030 8036	1014 1029 1109 1156 1166 1208 1246 1250 1262 1270 5006 5008 5009 5015 5018 5021 5028 5040 5041 5046 5049 5050 5051 8000 8027 8035	1011 1054 1158 1230 1272 5021 8002 8020 8028
7. *CONTROL AND INFLUENCE*	1001 1005 1012 1018 1019 1021 1026 1029 1031 1033 1036 1040 1047 1048 1049 1050 1052 1057 1058 1060 1061 1062 1063 1066 1071 1072 1073 1074 1078 1084 1085 1089 1095 1097 1098 1099 1100 1101 1105 1114 1115 1116 1122 1124 1126 1130 1131 1132 1133 1136 1139 1146 1152 1154 1160 1161 1163 1164 1175 1182 1187 1189 1196 1197 1198 1199 1200 1202 1203 1205 1206 1230 1231 1232 1238 1239 1240 1241 1243 1244 1251 1255 1258 1259 1261 1262 5001 5007 5010 5011 5016 5017 5020 5021 5022 5025 5026 5029 5030 5031 5035 5036 5039 5045 5047 5048 8003 8012 8017 8018 8021 8023 8024 8025 8029 8034 8037	1053 1059 1107 1111 1119 1120 1127 1176 1177 1212 1214 1262 5000 5008 5013 5021 5024 5033 5037 8006 8013 8014 8030 8036	1014 1023 1029 1104 1156 1166 1190 1194 1208 1246 1247 1249 1250 1262 1270 5002 5006 5008 5009 5015 5018 5021 5028 5040 5041 5046 5049 5050 5051 8000 8027 8035	1011 1020 1009 1158 1230 1272 5016 5021 8001 8002 8020 8028
8. *ORGANIZATIONAL ENCLOSURE*	1000 1006 1010 1017 1021 1040 1043 1048 1050 1079 1086 1092 1093 1094 1097 1099 1122 1133 1134 1136 1144 1148 1159 1179 1186 1189 1201 1218 1227 1231 1233 1238 1239 1243 1244 1255 1259 1262 1266 1267 1271 5001 5003 5011 5016 5017 5020 5022 5029 5030 5031 5034 5036 5039 5043 5048 8007 8021 8025 8033 8037	1059 1070 1107 1111 1127 1214 1262 5008 5013 5024 5037 8013 8030	1017 1156 1194 1246 1247 1249 1262 5002 5006 5008 5009 5015 5018 5028 5040 5041 5050 5051 8035	1017 1020 1157 1178 1266 5016 8009 8028
9. *CAREER ASPIRATIONS*	1001 1017 1044 1045 1050 1052 1064 1078 1079 1093 1098 1099 1101 1114 1129 1136 1148 1153 1154 1160 1168 1191 1192 1202 1203 1240 1255 1259 1269 5007 5010 5016 5017 5020 5022 5029 5035 5036 5047 5048 8008	1107 1111 1119 1176 1214 1223 5000	1014 1017 1156 1194 1208 5002 5009 5015 5028 5041 5051 8000	1016 1017 1188 5016 8001
10. *EXTRA-WORK ACTIVITIES*	1042 1047 1064 1172 1173 1186 1191 1266 1269 5007 5010 5029 5034 5048	1214 1223	1014 1260 5009 5019 5028 8000 8035	1158 1224 1266 8020
A. *CONSUMPTION*	1025 1257 5010 5034	1120	5018	
B. *CREATION*	1010 1025 1063 1089			1011 1158
C. *COMMUNITY-CITIZEN INVOLVEMENT*	1024 1025 1047 1064 1173 1213 1262 1266 5034 8008	1223 1262	1249 1262 5018 5019	1158 1266 8001 8028
11. *HOME AND FAMILY*	1027 1047 1067 1084 1162 1170 1173 1180 1213 1266 1269 5010 5029 5034 5036 5048 8004	1242 5033	1249 1250 1260 5009 5018 5019 8000 8035	1158 1185 1266 8001

TABLE 22: QUALITY OF WORKING LIFE CRITERIA AND ORGANIZATIONAL CHARACTERISTICS: LOCATION (URBAN AND RURAL), AND AGE

Organizational Characteristics

QUALITY OF WORKING LIFE CRITERIA	URBAN	RURAL	YOUNG	OLD
1. ALIENATION	1001 1021 5006 5010 5014 5016 5022 5028 5029 5038 5040	1011 1089 1188 5016 5029 5040 5041 8013	1033 1207 5009 5029 8014 8029	1017 1143 1207 5008 5016 5017 5020 5028 5029 5037 5040 5041
2. HEALTH AND SAFETY	5006 5010 5014 5022 5029 5034 5038	5007 5029 8013	5009 5029	5001 5017 5020 5029 5034 5037
3. ECONOMIC SECURITY	1007 1021 1037 5006 5010 5014 5028 5029 5038	1089 1188 5007 5029 5041 8013	1078 1182 5029	1143 5008 5017 5028 5029 5037 5041
4. SELF-ESTEEM	1001 5006 5010 5014 5016 5022 5029 5034 5040	1020 1070 5007 5016 5029 5040 5041 8013	1078 1182 5009 5029	5001 5008 5016 5017 5020 5029 5034 5040 5041
5. SELF-ACTUALIZATION	1037 5010 5014 5022	1011 1020	1182 5009 8014	1129 5008 5017
A. LEARNING AND GROWTH	5006 5010 5016 5028 5029	5007 5016 5029	1078 1182 5009 5029 8029	1050 5016 5017 5020 5028 5029
B. USING EXISTING COMPETENCE	1037 1095 1221 5006 5010 5014 5016 5029	1020 1089 5007 5016 5029 8013	1078 5009 5029	1129 5001 5008 5016 5020 5029 5037
6. WORK ENVIRONMENT				
A. PHYSICAL	5006 5028	1011 5041		5020 5028 5041
B. SOCIAL	1001 1037 1094 1175 5006 5010 5022 5028 5029 5034 5040	1011 1040 1070 1089 1094 5007 5029 5040 5041 8013	1033 1078 1152 1182 5009 5029	1046 1129 1152 5001 5008 5017 5020 5028 5029 5034 5037 5040 5041
7. CONTROL AND INFLUENCE	1001 1021 1058 1095 1115 1163 1175 1189 1216 1261 5006 5010 5016 5022 5028 5029 5040	1011 1020 1040 1089 1189 5007 5016 5029 5040 5041 8013	1033 1078 1152 1182 1207 5009 5029 8014 8029	1050 1053 1143 1152 1207 5001 5008 5016 5017 5020 5028 5029 5037 5040 5041
8. ORGANIZATIONAL ENCLOSURE	1021 1094 1189 5006 5014 5016 5022 5028 5029 5034 5040	1020 1040 1070 1094 1189 5016 5029 5040 5041 8013	5009 5029	1017 1046 1050 1143 1227 5001 5008 5016 5017 5020 5028 5029 5034 5037 5040 5041
9. CAREER ASPIRATIONS	1001 5010 5016 5022 5028 5029	1188 5007 5016 5029 5041	1078 5009 5029	1017 1050 1129 5016 5017 5020 5028 5029 5041
10. EXTRA-WORK ACTIVITIES	5010 5014 5028 5029 5034	5007 5029	5009 5029	5028 5029 5034
A. CONSUMPTION	5010 5034			5034
B. CREATION		1011 1089		
C. COMMUNITY-CITIZEN INVOLVEMENT	5034			5034
11. HOME AND FAMILY	5010 5029 5034	5029	5009 5029	5029 5034

TABLE 23: QUALITY OF WORKING LIFE CRITERIA AND ORGANIZATIONAL CHARACTERISTICS: OWNERSHIP

Organizational Characteristics

QUALITY OF WORKING LIFE CRITERIA	CORPORATE	GOVERNMENT	FAMILY	NONPROFIT
1. ALIENATION	1001 1006 1009 1015 1017 1021 1052 1068 1084 1089 1101 1108 1114 1143 1145 1160 1169 1178 1188 1190 1202 1205 1208 1209 1219 1231 1251 1255 1259 1262 5006 5008 5010 5011 5016 5017 5020 5022 5029 5038 5043 5048 5049 8012 8018 8026 8031	1001 1005 1006 1021 1032 1033 1036 1049 1052 1079 1151 1166 1176 1178 1181 1191 1201 1214 1217 1218 1250 5000 5041 8009	1143 5017 5028 5033 5037 5040	1001 1006 1231
2. HEALTH AND SAFETY	1006 1069 1101 1110 1114 1123 1124 1145 1147 1209 1229 1262 5001 5006 5007 5010 5017 5020 5022 5029 5034 5038 5048 5051	1006 1022 1039 1049 1168 1180 1181 1250 5000 5024 5046	5017 5033 5037 5051	1006
3. ECONOMIC SECURITY	1007 1010 1021 1052 1061 1089 1114 1143 1145 1146 1147 1178 1182 1187 1188 1192 1202 1208 1209 1230 1255 1262 1266 1269 5006 5007 5008 5010 5017 5029 5038 5048 5049 5051 8021	1016 1021 1052 1072 1075 1079 1120 1161 1176 1178 1181 1182 1191 1200 1214 1250 1269 5000 5041 5046	1143 5017 5028 5037 5051 8017	
4. SELF-ESTEEM	1001 1010 1020 1061 1070 1084 1087 1114 1124 1157 1182 1190 1208 1209 1230 1251 5001 5006 5007 5008 5010 5016 5017 5020 5022 5029 5034 5048 5051 8003	1001 1020 1022 1036 1075 1099 1121 1161 1168 1177 1182 1200 1214 1217 1218 5000 5041 5046	5017 5033 5040 5051	1001
5. SELF-ACTUALIZATION	1010 1020 1061 1071 1084 1160 1182 1194 1208 1230 1255 5008 5010 5017 5022 5048 5049 8023	1020 1034 1072 1075 1127 1129 1161 1182 1200	5017	
A. LEARNING AND GROWTH	1050 1108 1112 1160 1182 1190 1202 1205 1206 1220 1255 1262 5006 5007 5010 5011 5016 5017 5020 5029 5048 5051 8022 8037	1049 1074 1075 1112 1121 1182 5024 5046	5017 5028 5051	
B. USING EXISTING COMPETENCE	1020 1052 1089 1100 1190 1194 1206 1255 1262 5001 5006 5007 5008 5010 5011 5016 5020 5029 5048 8004 8021 8023 8026	1020 1026 1052 1072 1075 1099 1100 1121 1129 1133 1168 1191 1218 1221 5000 5046	5033 5037	

6. *WORK ENVIRONMENT*	1147			
A. PHYSICAL	1147 1209 1262 5006 5020 5049	1026 1164 1168 1176 1214 1250 5041	5028	
B. SOCIAL	1001 1010 1029 1057 1062 1070 1071 1087 1089 1101 1114 1116 1135 1146 1147 1152 1158 1167 1175 1182 1187 1202 1203 1204 1206 1208 1209 1210 1228 1230 1251 1258 1259 1262 1272 5001 5006 5007 5008 5010 5011 5017 5020 5022 5025 5029 5034 5048 5049 5051 8003 8004 8021 8022 8023 8026 8032 8037	1001 1002 1026 1033 1034 1046 1049 1054 1057 1062 1072 1073 1074 1075 1094 1120 1125 1129 1133 1161 1166 1168 1175 1182 1191 1200 1214 1217 1241 1250 1263 1271 1272 5000 5024 5041 5046	1152 5017 5028 5033 5037 5040 5051 8017	
7. *CONTROL AND INFLUENCE*	1001 1020 1021 1029 1050 1052 1053 1057 1061 1062 1071 1084 1087 1089 1100 1101 1106 1114 1115 1116 1124 1143 1146 1152 1158 1160 1175 1182 1187 1190 1194 1202 1203 1205 1206 1208 1209 1216 1230 1231 1251 1255 1258 1259 1262 1272 5001 5006 5007 5008 5010 5011 5016 5017 5020 5022 5025 5029 5048 5049 5051 8003 8012 8018 8021 8022 8023 8037	1001 1005 1012 1020 1021 1026 1033 1034 1036 1039 1049 1052 1057 1058 1062 1072 1073 1074 1075 1099 1100 1120 1127 1133 1161 1163 1164 1166 1175 1176 1177 1182 1189 1200 1212 1214 1216 1217 1241 1250 1261 5009 5024 5041 5046 8001	1058 1143 1152 5017 5028 5033 5037 5040 5051 8017	1001 1118 1243 1273
8. *ORGANIZATIONAL ENCLOSURE*	1000 1006 1010 1017 1020 1021 1043 1050 1070 1087 1108 1143 1157 1159 1167 1178 1186 1194 1227 1231 1255 1259 1262 1266 5001 5006 5008 5011 5016 5017 5020 5022 5029 5034 5043 5048 5051 8021 8037	1006 1020 1021 1034 1046 1079 1094 1099 1127 1133 1178 1186 1189 1201 1214 1217 1218 1233 1271 5024 5041 8009	1143 5017 5028 5037 5040 5051	1001 1065 1115 1116 1122 1231 1232 1243 1244
9. *CAREER ASPIRATIONS*	1001 1017 1050 1052 1101 1108 1114 1160 1188 1192 1194 1202 1203 1208 1209 1255 1259 1269 5007 5010 5016 5017 5020 5022 5029 5048 5051 8026	1001 1016 1052 1079 1099 1129 1168 1176 1191 1214 1269 5000 5041 8001	5017 5028 5051	1006 1122 1231 1243 1244
10. *EXTRA-WORK ACTIVITIES*	1158 1172 1173 1186 1266 1269 5007 5010 5029 5034 5048	1075 1186 1191 1214 1224 1269	5028	1001
A. CONSUMPTION	1025 5010 5034	1120		
B. CREATION	1010 1025 1089 1158			
C. COMMUNITY-CITIZEN INVOLVEMENT	1025 1158 1173 1262 1266 5034	1075 1265 8001	1213	
11. *HOME AND FAMILY*	1084 1158 1162 1173 1266 1269 5010 5029 5034 5048 8004	1162 1180 1250 1269 8001	1213 5033	

TABLE 24: QUALITY OF WORKING LIFE CRITERIA AND ORGANIZATIONAL CHARACTERISTICS: PROCESS AND STRUCTURE

Organizational Characteristics

QUALITY OF WORKING LIFE CRITERIA	*TALL*	*FLAT*	*MECHANISTIC*	*ORGANIC*
1. *ALIENATION*	1023 1033 1036 1051 1084 1088 1118 1150 1151 1166 1209 1214 1256 5000 5009 5018 5020 5029	1023 1036 1051 5009 8035	1023 1030 1084 1098 1114 1156 5008 5010 8035	1023 1047 1052 1114 1209 5008
2. *HEALTH AND SAFETY*	1022 1110 1134 1142 1209 1237 5000 5009 5018 5020 5026 5029 5030	5009	1114 5010	1047 1114 1209
3. *ECONOMIC SECURITY*	1016 1023 1064 1161 1200 1209 1214 1249 5000 5003 5018 5019 5029 5030	1023 8017 8025 8035	1023 1098 1114 5008 5010 8017 8035	1008 1023 1052 1114 1209 5008 8017 8025
4. *SELF-ESTEEM*	1022 1023 1036 1064 1066 1084 1087 1099 1121 1141 1157 1161 1200 1209 1214 1249 5000 5009 5018 5020 5026 5029	1023 1036 5009 8035	1023 1084 1098 1114 1156 1165 5008 5010 8035	1008 1023 1114 1165 1209 5008
5. *SELF-ACTUALIZATION*	1023 1084 1127 1161 1200 5009 5018	5009	1023 1084 1098 1136 1194 5008 5010	1023 1034 1194 5008
A. LEARNING AND GROWTH	1121 5009 5020 5029 5030	1023 1127 5009	5010	1008
B. USING EXISTING COMPETENCE	1026 1064 1066 1076 1099 1121 1133 1234 5000 5009 5020 5029 5030	5009	1165 1194 5008 5010	1008 1052 1165 1194 5008
6. *WORK ENVIRONMENT*	5026			
A. PHYSICAL	1026 1209 1214 5020			1209
B. SOCIAL	1019 1026 1033 1066 1076 1087 1125 1130 1131 1133 1152 1155 1161 1166 1200 1204 1209 1214 1228 1234 1267 1271 5000 5003 5009 5018 5020 5026 5029 5030	5009 8017 8035	1098 1114 1136 1156 1165 1228 5008 5010 8017 8035	1008 1034 1047 1114 1165 1209 5008 8017

7. *CONTROL AND INFLUENCE*	1019 1023 1026 1033 1036 1051 1058 1066 1076 1084 1087 1099 1127 1130 1131 1133 1152 1161 1166 1200 1209 1214 1249 1261 5000 5009 5018 5020 5026 5023 5030	1023 1036 1051 1058 1127 5009 8017 8025 8035	1023 1058 1084 1098 1114 1136 1156 1165 1194 5008 5010 8017 8035	1023 1034 1047 1052 1114 1165 1194 1209 5008 8017 8025
8. *ORGANIZATIONAL ENCLOSURE*	1051 1086 1087 1093 1099 1127 1133 1134 1157 1214 1249 1267 1271 5003 5009 5018 5020 5029 5030	1051 1092 1127 5009 8025 8035	1136 1156 1194 5008 8035	1034 1194 5008 8025
9. *CAREER ASPIRATIONS*	1016 1045 1064 1093 1099 1209 1214 5000 5009 5020 5029	5009	1098 1114 1136 1156 1194 5010	1008 1052 1114 1194 1209
10. *EXTRA-WORK ACTIVITIES*	1064 1172 1214 5009 5019 5029	5009 8035	5010 8035	1047
A. *CONSUMPTION*	1025 5018		5010	
B. *CREATION*	1025			
C. *COMMUNITY-CITIZEN INVOLVEMENT*	1025 1064 1249 5018 5019			1047
11. *HOME AND FAMILY*	1084 1249 5009 5018 5019 5029	5009 8035	1084 5010 8035	1047

TABLE 25: QUALITY OF WORKING LIFE CRITERIA AND ORGANIZATIONAL CHARACTERISTICS: SOCIAL INNOVATION

Organizational Characteristics

QUALITY OF WORKING LIFE CRITERIA	*AUTONOMOUS GROUPS*	*TEAM BUILDING*	*INDUSTRIAL DEMOCRACY*	*OTHER*
1. *ALIENATION*	1214 1217 1262 8000 8030	1047 1052 1231 8012	1176	1143 1201 1202 1245 8031
2. *HEALTH AND SAFETY*	1147 1262	1047	5024	8020
3. *ECONOMIC SECURITY*	1147 1214 1262 8025	1052	1120 1176 5015	1143 1202 8017
4. *SELF-ESTEEM*	1214 1217 8000	1024 1035	1177 5015	8020
5. *SELF-ACTUALIZATION*		1024 8023	1127 5015	8020
A. LEARNING AND GROWTH	1262 8000 8036 8037	1035	5024	1202 1274 8020 8022
B. USING EXISTING COMPETENCE	1262 8000	1035 1052 1076 8023	1234	1133 8004 8010
6. *WORK ENVIRONMENT*	1147	1024		
A. PHYSICAL	1147 1214 1262 8000		1176	8020
B. SOCIAL	1147 1214 1217 1262 8000 8002 8030 8032 8036 8037	1029 1035 1046 1047 1076 1103 8023	1120 1234 5015 5024	1133 1202 1204 1245 1270 1271 1274 5045 8004 8017 8020 8022 8024
7. *CONTROL AND INFLUENCE*	1214 1217 1262 8000 8002 8006 8025 8030 8036 8037	1029 1047 1052 1076 1103 1231 8012 8023	1120 1127 1176 1177 1212 5015 5024	1133 1143 1202 1245 1270 1274 5045 8010 8017 8020 8022 8024
8. *ORGANIZATIONAL ENCLOSURE*	1214 1217 1262 8025 8030 8037	1046 1231	1127 5015 5024	1133 1143 1201 1271
9. *CAREER ASPIRATIONS*	1214 8000	1052	1176 5015	1202
10. *EXTRA-WORK ACTIVITIES*	1214 8000	1047		8020
A. CONSUMPTION			1120	
B. CREATION				
C. COMMUNITY-CITIZEN INVOLVEMENT	1262	1024 1047		
11. *HOME AND FAMILY*	8000	1047		8004

TABLE 26: QUALITY OF WORKING LIFE CRITERIA AND WORK CHARACTERISTICS: BLUE COLLAR

Work Characteristics

QUALITY OF WORKING LIFE CRITERIA	*SERVICE*	*INDUSTRIAL*
1. *ALIENATION*	1015 1049 1178 1181 1188 1222 1231 1235 1245 5014 5028 5049 8018 8035	1015 1030 1041 1051 1059 1068 1084 1128 1145 1176 1178 1188 1201 1202 1207 1208 1209 1214 1222 1223 1226 1245 1246 1247 1248 1250 1251 1252 1255 1262 1268 5002 5004 5005 5006 5009 5010 5014 5017 5018 5020 5023 5028 5037 5038 5040 5041 5043 5044 5048 5049 8000 8005 8012 8013 8014 8026 8029 8031 8034
2. *HEALTH AND SAFETY*	1049 1081 1181 1222 5014 8028	1022 1055 1081 1117 1123 1124 1145 1147 1174 1193 1209 1222 1237 1246 1247 1248 1250 1253 1260 1262 5002 5004 5005 5006 5007 5009 5010 5014 5017 5018 5020 5024 5030 5034 5037 5038 5044 5047 5048 8013 8020 8028
3. *ECONOMIC SECURITY*	1075 1178 1181 1187 1188 1222 5003 5014 5028 5049 8035	1004 1010 1037 1059 1064 1072 1109 1120 1145 1147 1176 1178 1188 1202 1208 1209 1214 1222 1230 1246 1249 1250 1252 1255 1262 1266 1269 5002 5003 5004 5005 5006 5007 5010 5012 5014 5017 5018 5019 5028 5030 5037 5038 5041 5044 5047 5048 5049 8013 8025
4. *SELF-ESTEEM*	1066 1075 1222 5014 8028 8035	1010 1022 1028 1064 1070 1084 1124 1141 1157 1165 1208 1209 1214 1222 1226 1230 1238 1239 1248 1249 1251 1252 1268 5004 5005 5006 5007 5009 5010 5014 5017 5018 5020 5034 5040 5041 5044 5047 5048 8000 8005 8013 8020 8028 8033 8034
5. *SELF-ACTUALIZATION*	1075 5014 5049 8028	1010 1037 1059 1072 1084 1129 1208 1230 1255 1268 5004 5009 5010 5012 5014 5017 5018 5044 5048 5049 8014 8020 8023 8028
A. LEARNING AND GROWTH	1049 1075 1222 5028	1004 1050 1111 1202 1206 1222 1238 1239 1255 1262 5004 5006 5007 5009 5010 5017 5020 5024 5028 5030 5044 5048 8000 8020 8029 8036 8037
B. USING EXISTING COMPETENCE	1066 1075 1222 5014	1004 1037 1059 1064 1072 1104 1111 1129 1165 1206 1222 1238 1240 1248 1252 1255 1262 5004 5006 5007 5009 5010 5012 5014 5020 5030 5037 5047 5048 8000 8013 8023 8026

6. *WORK ENVIRONMENT*		1147 5005
A. PHYSICAL	1164 5028 5049	1104 1111 1147 1176 1209 1214 1246 1248 1250 1262 5006 5020 5028 5041 5044 5047 5049 8000 8020
B. SOCIAL	1040 1049 1066 1075 1094 1116 1187 1222 1245 1258 5003 5028 5045 5049 8028 8035	1004 1010 1037 1054 1059 1070 1072 1109 1111 1120 1129 1131 1147 1155 1158 1165 1179 1202 1206 1208 1209 1210 1214 1222 1223 1230 1238 1245 1246 1248 1250 1251 1262 1271 5003 5004 5005 5006 5007 5009 5010 5017 5018 5020 5024 5025 5028 5030 5034 5037 5040 5041 5045 5047 5048 5049 8000 8002 8013 8020 8023 8024 8026 8028 8032 8036 8037
7. *CONTROL AND INFLUENCE*	1040 1049 1066 1075 1115 1116 1164 1187 1231 1245 1258 5028 5045 5049 8018 8028 8035	1048 1050 1051 1059 1072 1084 1104 1111 1120 1124 1131 1158 1165 1176 1189 1202 1206 1207 1208 1209 1212 1214 1226 1230 1238 1239 1240 1245 1246 1247 1248 1249 1250 1251 1255 1262 5002 5004 5005 5006 5007 5009 5010 5017 5018 5020 5024 5025 5028 5030 5037 5040 5041 5044 5045 5047 5048 5049 8000 8002 8012 8013 8014 8020 8023 8024 8025 8028 8029 8034 8036 8037
8. *ORGANIZATIONAL ENCLOSURE*	1040 1094 1178 1215 1231 5003 5014 5028 8028 8035	1010 1048 1050 1051 1059 1070 1111 1157 1159 1178 1179 1189 1201 1214 1227 1233 1238 1239 1246 1247 1249 1252 1255 1262 1266 1271 5002 5003 5004 5005 5006 5009 5014 5017 5018 5020 5024 5028 5030 5034 5037 5040 5041 5043 5048 8013 8025 8028 8033 8037
9. *CAREER ASPIRATIONS*	1188 1222 5028	1050 1064 1111 1129 1176 1188 1202 1208 1209 1214 1222 1223 1240 1255 1269 5002 5004 5005 5007 5009 5010 5017 5020 5028 5041 5044 5047 5048 8000 8026
10. *EXTRA-WORK ACTIVITIES*	1075 1222 1224 5014 5028 8035	1042 1064 1158 1172 1214 1222 1223 1260 1266 1269 5007 5009 5010 5014 5019 5028 5034 5048 8000 8020
A. CONSUMPTION		1025 1120 5010 5018 5034
B. CREATION		1010 1025 1158
C. COMMUNITY-CITIZEN INVOLVEMENT	1075 1222 8028	1025 1064 1117 1158 1213 1222 1223 1249 1262 1266 5004 5018 5019 5034 5044 8028
11. *HOME AND FAMILY*	1242 8035	1084 1117 1158 1162 1213 1249 1250 1260 1266 1269 5009 5010 5018 5019 5034 5044 5048 8000

TABLE 27: QUALITY OF WORKING LIFE CRITERIA AND WORK CHARACTERISTICS: WHITE COLLAR

Work Characteristics

QUALITY OF WORKING LIFE CRITERIA	INDUSTRIAL	SERVICE	ADMINISTRATIVE/MANAGERIAL	PROFESSIONAL
1. ALIENATION	1150 1156 1169 1178 1202 1208 1209 1214 5043 5048	1001 1015 1052 1088 1101 1118 1154 1178 1190 1191 1209 1218 1219 1231 5016 5033	1009 1017 1023 1030 1049 1052 1068 1089 1101 1107 1114 1156 1178 1190 1205 1208 1209 1217 1223 1231 1259 5008 5011 5017 5020 5029 5033 5040 5050 8000	1001 1005 1006 1013 1021 1030 1032 1033 1036 1047 1052 1079 1089 1098 1114 1149 1151 1160 1178 1190 1191 1208 1217 1218 1245 5011 5014 5022 5033 5050 8008 8009
2. HEALTH AND SAFETY	1123 1124 1209 1253 5024 5027 5048 8028	1101 1154 1209 5033 8020	1014 1049 1055 1101 1110 1114 1123 1124 1126 1209 1237 1253 5001 5007 5017 5020 5026 5029 5030 5033 8018	1006 1039 1047 1080 1114 1124 1144 1253 5014 5022 5033 8028
3. ECONOMIC SECURITY	1007 1064 1171 1178 1202 1208 1209 1214 5027 5048	1052 1075 1154 1178 1191 1196 1197 1198 1199 1209 1269 5015 8021	1016 1023 1037 1052 1056 1061 1072 1075 1089 1096 1102 1114 1119 1126 1139 1140 1146 1161 1178 1182 1187 1192 1195 1196 1197 1198 1199 1200 1208 1209 1269 5003 5007 5008 5017 5021 5029 5030 5031 5036 5039	1008 1021 1037 1052 1064 1079 1089 1098 1113 1114 1178 1191 1192 1208 1269 5003 5014
4. SELF-ESTEEM	1064 1124 1156 1208 1209 1214 5048 8028	1001 1020 1075 1089 1154 1190 1196 1197 1198 1199 1209 1218 5015 5016 5033 8020	1014 1023 1024 1031 1035 1061 1075 1085 1087 1096 1097 1107 1114 1119 1121 1124 1132 1139 1140 1156 1157 1161 1182 1190 1196 1197 1198 1199 1200 1208 1209 1217 5001 5007 5008 5017 5020 5021 5026 5029 5031 5033 5036 5039 5040 8000 8003 8016 8028 8033	1001 1008 1020 1028 1035 1036 1064 1097 1098 1099 1113 1114 1124 1132 1149 1165 1190 1208 1217 1218 5014 5022 5033 8008 8028
5. SELF-ACTUALIZATION	1018 1208 5048 8019 8028	1075 1154 1196 5015 8020	1023 1024 1037 1061 1071 1072 1075 1085 1136 1139 1140 1161 1182 1194 1196 1200 1208 5008 5017 5021 5035 8028	1020 1037 1098 1136 1144 1160 1208 5014 5022 8028
A. LEARNING AND GROWTH	1202 1220 5024 5048	1075 1154 1190 1196 1197 1198 1199 5016 8020	1035 1049 1074 1075 1096 1097 1111 1112 1119 1121 1126 1182 1190 1195 1196 1197 1198 1199 1205 1274 5007 5011 5017 5020 5029 5030 5031 5050 8000 8022	1008 1035 1097 1160 1190 5011 5050
B. USING EXISTING COMPETENCE	1064 1234 5048	1052 1075 1099 1190 1191 1196 1197 1198 1199 1218 5016 5033 8021	1026 1035 1037 1052 1056 1072 1075 1089 1095 1096 1097 1100 1111 1119 1121 1190 1194 1195 1196 1197 1198 1199 1234 5001 5007 5008 5011 5013 5020 5021 5029 5030 5033 5039 5050 8000 8015	1008 1020 1035 1037 1052 1064 1089 1095 1097 1099 1165 1190 1191 1218 1221 5011 5014 5033 5050 8004
6. WORK ENVIRONMENT			1024 5026	
A. PHYSICAL	1209 1214	1164 1209 8020	1026 1107 1111 1209 5020 8000	1164

6. SOCIAL	1156 1202 1208 1209 1214 1234 5024 5048 8028	1001 1073 1075 1090 1101 1116 1148 1154 1191 1196 1197 1198 1199 1209 1243 5015 5033 8020 8021	1014 1026 1029 1031 1035 1037 1046 1049 1056 1062 1071 1072 1073 1074 1075 1085 1087 1089 1101 1103 1107 1111 1114 1119 1130 1132 1135 1136 1139 1140 1146 1152 1153 1155 1156 1161 1175 1179 1182 1187 1196 1197 1198 1199 1200 1203 1204 1208 1209 1217 1223 1228 1234 1243 1258 1259 1270 1272 1274 5001 5003 5007 5008 5011 5017 5020 5021 5026 5029 5030 5033 5036 5039 5040 5046 5050 8000 8003 8022 8027 8028	1001 1002 1008 1013 1035 1037 1047 1054 1057 1062 1073 1089 1098 1114 1125 1132 1136 1148 1165 1175 1191 1208 1217 1245 1263 1273 5003 5011 5022 5033 5050 8004 8027 8028
7. CONTROL AND INFLUENCE	1018 1124 1156 1171 1202 1208 1209 1214 5024 5048 8028	1001 1052 1073 1075 1090 1101 1115 1116 1122 1154 1164 1190 1196 1197 1198 1199 1209 1216 1231 1232 1243 5015 5016 5033 8020 8021	1014 1023 1026 1029 1031 1049 1052 1053 1060 1061 1062 1071 1072 1073 1074 1075 1085 1087 1089 1095 1097 1100 1101 1103 1105 1107 1111 1114 1115 1119 1122 1124 1126 1130 1132 1136 1139 1140 1146 1152 1156 1161 1175 1182 1187 1190 1194 1196 1197 1198 1199 1200 1203 1205 1208 1209 1212 1216 1217 1231 1232 1243 1258 1259 1261 1270 1272 1274 5001 5007 5008 5011 5013 5017 5020 5021 5026 5029 5030 5031 5033 5036 5039 5040 5045 5050 8000 8003 8015 8022 8027 8028	1001 1005 1012 1020 1021 1033 1036 1039 1047 1052 1053 1057 1058 1062 1065 1073 1089 1095 1097 1098 1099 1113 1114 1124 1132 1136 1149 1160 1163 1164 1165 1175 1189 1190 1208 1216 1217 1245 1263 5011 5022 5033 5050 8001 8027 8028
8. ORGANIZATIONAL ENCLOSURE	1156 1178 1214 1227 5024 5043 5048 8028	1099 1122 1148 1178 1218 1231 1243 5015 5016 8021	1017 1043 1046 1087 1092 1093 1097 1107 1111 1122 1136 1156 1157 1178 1179 1186 1194 1217 1231 1233 1243 1259 5001 5003 5008 5011 5013 5017 5020 5029 5030 5031 5036 5039 5040 5050 8028 8033	1000 1006 1020 1021 1075 1086 1097 1099 1113 1136 1144 1148 1178 1186 1189 1217 1218 1233 1236 5003 5011 5014 5022 5050 8007 8009 8028
9. CAREER ASPIRATIONS	1064 1156 1202 1208 1209 1214 5048	1001 1052 1099 1101 1148 1154 1191 1209 1269 5015 5016	1014 1016 1017 1052 1093 1096 1101 1107 1111 1114 1119 1136 1153 1156 1192 1194 1203 1208 1209 1223 1259 1269 5007 5017 5020 5029 5036 8000	1001 1008 1045 1052 1064 1075 1098 1099 1113 1114 1136 1148 1149 1160 1191 1192 1208 1269 5022 8001 8008
10. EXTRA-WORK ACTIVITIES	1042 1064 1214 5048	75 1191 1225 1269 8020	1014 1042 1075 1186 1223 1225 1269 5007 5029 8000	1042 1047 1064 1186 1191 1224 1225 1269 5014
A. CONSUMPTION				
B. CREATION			1089	1089
C. COMMUNITY-CITIZEN INVOLVEMENT	1064 8028	1075	1024 1075 1223 8028	1047 1064 8001 8008 8028
11. HOME AND FAMILY	1162 5048	1269 5033	1162 1269 5029 5033 5036 8000	1047 1113 1162 1269 5033 8001 8004

TABLE 28: QUALITY OF WORKING LIFE CRITERIA AND WORK CHARACTERISTICS: DESIGN

Work Characteristics

QUALITY OF WORKING LIFE CRITERIA	*JOB ENLARGEMENT*	*RATIONALIZATION*	*OTHER*
1. *ALIENATION*	1108 1190 1255 1262 5017 8005 8029 8030	1084 1252 1268 5010	5016 5017
2. *HEALTH AND SAFETY*	1022 1262 5017	5010	5017
3. *ECONOMIC SECURITY*	1003 1004 1255 1262 5017 8021	1252 5010	5017
4. *SELF-ESTEEM*	1003 1022 1097 1190 5017 8005	1084 1252 1268 5010	5016 5017
5. *SELF-ACTUALIZATION*	1003 1255 5017 8019 8023	1084 1268 5010	5017
A. LEARNING AND GROWTH	1004 1050 1097 1108 1190 1206 1255 1262 5017 8029 8037	5010	1206 5016 5017
B. USING EXISTING COMPETENCE	1004 1097 1190 1206 1255 1262 8021 8023	1252 5010	1206 5016
6. *WORK ENVIRONMENT*			
A. PHYSICAL	1262		
B. SOCIAL	1003 1004 1040 1206 1262 5017 8021 8023 8027 8030 8037	5010	1206 5017
7. *CONTROL AND INFLUENCE*	1003 1040 1048 1050 1097 1108 1190 1206 1255 1262 5017 8006 8021 8023 8027 8029 8030 8037	1084 5010	1206 5016 5017
8. *ORGANIZATIONAL ENCLOSURE*	1040 1048 1050 1097 1108 1255 1262 5017 8021 8030 8037	1252	5016 5017
9. *CAREER ASPIRATIONS*	1050 1108 1255 5017	5010	5016 5017
10. *EXTRA-WORK ACTIVITIES*		5010	
A. CONSUMPTION		5010	
B. CREATION			
C. COMMUNITY-CITIZEN INVOLVEMENT			
11. *HOME AND FAMILY*	1262	1084 5010	

TABLE 29: QUALITY OF WORKING LIFE CRITERIA AND TECHNICAL CHARACTERISTICS: PROCESS

Technical Characteristics

QUALITY OF WORKING LIFE CRITERIA	*BATCH*	*MASS*	*CONTINUOUS PROCESS*
1. *ALIENATION*	1049 1098 1169 1188 1214 5004 5006 5009 5016 5023 5028 5037 5040 5043 5049 8018 8035	1041 1059 1063 1068 1084 1145 1188 1226 1251 1252 5002 5004 5010 5020 5023 5038 5041 5043 8005 8012 8013 8026	1023 1188 1246 1247 1268 5004 5009 5029 5043 5049 8000 8013 8014 8029 8030 8034
2. *HEALTH AND SAFETY*	1049 1117 5004 5006 5007 5009 5030 5035 5037 5046 5051	1014 1022 1117 1134 1142 1145 1147 5002 5004 5010 5020 5035 5038 5046 5051 8013 8020	1246 1247 1260 5004 5009 5026 5029 5034 5035 5047 5051 8013
3. *ECONOMIC SECURITY*	1010 1078 1098 1187 1188 1214 5003 5004 5006 5007 5028 5030 5035 5037 5039 5046 5049 5051 8021 8035	1010 1056 1059 1109 1119 1145 1147 1188 1230 1249 1252 5002 5003 5004 5010 5035 5038 5039 5041 5046 5051 8013	1004 1023 1064 1188 1246 5003 5004 5029 5035 5039 5047 5049 5051 8013 8025
4. *SELF-ESTEEM*	1010 1066 1078 1097 1093 1214 5004 5006 5007 5009 5016 5039 5040 5046 5051 8035	1010 1014 1022 1063 1070 1084 1119 1141 1226 1230 1249 1251 1252 5004 5010 5020 5039 5041 5046 5051 8005 8013 8020	1023 1064 1238 1239 1268 5004 5009 5026 5029 5034 5039 5047 5051 8000 8013 8033 8034
5. *SELF-ACTUALIZATION*	1010 1098 5004 5009 5039 5049	1010 1059 1084 1230 5004 5010 5039 8019 8020 8023	1023 1268 5004 5009 5039 5049 8014
A. LEARNING AND GROWTH	1049 1078 1097 5004 5006 5007 5009 5016 5028 5030 5035 5046 5051	1119 5004 5010 5020 5035 5046 5051 8020 8036	1004 1238 1239 5004 5009 5029 5035 5051 8000 8029 8037
B. USING EXISTING COMPETENCE	1066 1078 1097 1104 5004 5006 5007 5009 5016 5030 5035 5037 5039 5046 8021	1056 1059 1104 1119 1252 5004 5010 5020 5035 5039 5046 8013 8023 8026	1004 1064 1238 1240 5004 5009 5029 5035 5039 5047 8000 8013
6. *WORK ENVIRONMENT*		1147	5026
A. PHYSICAL	1104 1214 5006 5028 5035 5049	1063 1104 1147 5020 5035 5041 8020	1246 5035 5047 5049 8000
B. SOCIAL	1002 1010 1049 1066 1078 1091 1098 1130 1187 1204 1214 1273 5003 5004 5006 5007 5009 5028 5030 5032 5035 5037 5039 5040 5046 5049 5051 8021 8035	1010 1014 1056 1059 1063 1070 1109 1119 1147 1158 1230 1251 1273 5003 5004 5010 5020 5032 5035 5039 5041 5046 5051 8013 8020 8023 8026 8032 8036	1004 1238 1246 5003 5004 5009 5026 5029 5032 5034 5035 5039 5047 5049 5051 8000 8002 8013 8024 8030 8037

7. *CONTROL AND INFLUENCE*	1012 1049 1066 1078 1091 1097 1098 1104 1130 1187 1214 5004 5006 5007 5009 5016 5028 5030 5032 5035 5037 5039 5040 5046 5049 5051 8018 8021 8035	1014 1059 1063 1084 1104 1119 1158 1226 1230 1249 1251 5002 5004 5010 5020 5032 5035 5039 5041 5046 5051 8012 8013 8020 8023 8036	1023 1238 1239 1240 1246 1247 5004 5009 5026 5029 5032 5035 5039 5047 5049 5051 8000 8002 8006 8013 8014 8024 8025 8029 8030 8034 8037
8. *ORGANIZATIONAL ENCLOSURE*	1010 1097 1214 5003 5004 5006 5009 5016 5028 5030 5037 5039 5040 5043 5051 8021 8035	1010 1059 1070 1092 1134 1249 1252 5002 5003 5004 5020 5039 5041 5043 5051 8013	1238 1239 1246 1247 5003 5004 5009 5029 5034 5039 5043 5051 8013 8025 8030 8033 8037
9. *CAREER ASPIRATIONS*	1078 1098 1188 1214 5004 5007 5009 5016 5028 5035 5051	1014 1119 1188 5002 5004 5010 5020 5035 5041 5051 8026	1064 1188 1240 5004 5009 5029 5035 5047 5051 8000
10. *EXTRA-WORK ACTIVITIES*	1091 1172 1214 5007 5009 5028 8035	1014 1158 5010 8020	1064 1260 5009 5029 5034 8000
A. CONSUMPTION		5010	1025 5034
B. CREATION	1010	1010 1063 1158	1025
C. COMMUNITY-CITIZEN INVOLVEMENT	1117 5004	1117 1158 1249 5004	1025 1064 5004 5034
11. *HOME AND FAMILY*	1091 1117 5009 8035	1084 1117 1158 1249 5010	1260 5009 5029 5034 8000

TABLE 30: QUALITY OF WORKING LIFE CRITERIA AND TECHNICAL CHARACTERISTICS: TYPE

Technical Characteristics

QUALITY OF WORKING LIFE CRITERIA	TRADITIONAL	INDUSTRIAL	POST-INDUSTRIAL
1. ALIENATION	1011 1049 1098 1118 1169 1176 1188 1214 1226 1250 5004 5006 5009 5011 5016 5028 5037 5040 5043 5049 8018 8035	1041 1051 1059 1063 1068 1084 1145 1176 1188 1226 1250 1251 1252 5002 5004 5009 5010 5020 5038 5041 5043 5048 8005 8012 8013 8026	1023 1063 1084 1154 1156 1176 1188 1226 1245 1246 1247 5004 5009 5029 5043 5049 8000 8013 8014 8029 8030 8034
2. HEALTH AND SAFETY	1049 1117 1250 5004 5006 5007 5009 5030 5035 5037 5046 5051	1014 1117 1126 1134 1142 1145 1147 1250 5002 5004 5009 5010 502 5035 5038 5046 5048 5051 8013 802	1154 1246 1247 5004 5009 5026 5029 5034 5035 5047 5051 8013
3. ECONOMIC SECURITY	1098 1176 1187 1188 1214 1250 5003 5004 5006 5007 5028 5030 5035 5037 5039 5046 5049 5051 8021 8035	1056 1059 1078 1119 1126 1145 1147 1176 1188 1230 1249 1250 1252 5002 5003 5004 5010 5035 5038 5039 5041 5046 5048 5051 8013	1023 1064 1154 1176 1188 1246 5003 5004 5029 5035 5039 5047 5049 5051 8013 8025
4. SELF-ESTEEM	1066 1097 1098 1214 1226 5004 5006 5007 5009 5016 5039 5040 5046 5051 8035	1014 1063 1070 1078 1084 1119 1141 1226 1230 1249 1251 1252 5004 5009 5010 5020 5039 5041 5046 5048 5051 8005 8013 8020	1023 1063 1064 1084 1154 1156 1165 1226 1238 1239 5004 5009 5026 5029 5034 5039 5047 5051 8000 8013 8034
5. SELF-ACTUALIZATION	1011 1098 5004 5009 5039 5049	1059 1084 1230 5004 5009 5010 5039 5048 8019 8020 8023	1023 1084 1154 5004 5009 5039 5049 8014
A. LEARNING AND GROWTH	1049 1097 5004 5005 5007 5009 5011 5016 5028 5030 5035 5046 5051	1078 1119 1126 5004 5009 5010 5020 5035 5046 5048 5051 8020 8036	1154 1238 1239 5004 5009 5029 5035 5051 8000 8029 8037
B. USING EXISTING COMPETENCE	1066 1097 5004 5006 5007 5009 5011 5016 5030 5035 5037 5039 5046 8021	1056 1059 1078 1104 1119 1252 5004 5009 5010 5020 5035 5039 5046 5048 8013 8023 8026	1064 1165 1238 1240 5004 5009 5029 5035 5039 5047 8000 8013
6. WORK ENVIRONMENT		1147	5026
A. PHYSICAL	1011 1176 1214 1250 5006 5028 5035 5049	1063 1104 1147 1176 1250 5020 5035 5041 8020	1063 1176 1246 5035 5047 5049 8000
B. SOCIAL	1002 1011 1049 1066 1091 1098 1130 1187 1204 1214 1250 1273 5003 5004 5006 5007 5009 5011 5028 5030 5035 5037 5039 5040 5046 5049 5051 8021 8035	1014 1040 1056 1059 1063 1070 1078 1119 1131 1147 1158 1230 1250 1251 1273 5003 5004 5009 5010 5020 5025 5032 5035 5039 5041 5046 5048 5051 8013 8020 8023 8026 8032 8036	1063 1154 1156 1165 1238 1245 1246 5003 5004 5009 5026 5029 5032 5034 5035 5039 5047 5049 5051 8000 8002 8013 8024 8030 8037

7. *CONTROL AND INFLUENCE*	1011 1012 1049 1066 1091 1097 1098 1130 1176 1187 1214 1226 1250 5004 5006 5007 5009 5011 5016 5028 5030 5035 5037 5039 5040 5046 5049 5051 8018 8021 8035	1014 1040 1048 1051 1059 1063 1078 1084 1104 1119 1126 1131 1158 1176 1226 1230 1249 1250 1251 5002 5004 5009 5010 5020 5025 5032 5035 5039 5041 5046 5048 5051 8012 8013 8020 8023 8036	1023 1063 1084 1154 1156 1165 1176 1226 1238 1239 1240 1245 1246 1247 5004 5009 5026 5029 5032 5035 5039 5047 5049 5051 8000 8002 8006 8013 8014 8024 8025 8029 8030 8034 8037
8. *ORGANIZATIONAL ENCLOSURE*	1097 1214 5003 5004 5006 5009 5011 5016 5028 5030 5037 5039 5040 5043 5051 8021 8035	1040 1048 1051 1059 1070 1092 1134 1227 1249 1252 5002 5003 5004 5009 5020 5039 5041 5043 5048 5051 8013	1156 1238 1239 1246 1247 5003 5004 5009 5029 5034 5039 5043 5051 8013 8025 8030 8037
9. *CAREER ASPIRATIONS*	1098 1176 1188 1214 5004 5007 5009 5016 5028 5035 5051	1014 1078 1119 1176 1188 5002 5004 5009 5010 5020 5035 5041 5048 5051 8026	1064 1154 1156 1176 1188 1240 5004 5009 5029 5035 5047 5051 8000
10. *EXTRA-WORK ACTIVITIES*	1091 1172 1214 5007 5009 5028 8035	1014 1158 5009 5010 5048 8020	1064 5009 5029 5034 8000
A. CONSUMPTION		5010	1025 5034
B. CREATION	1011	1063 1158	1025 1063
C. COMMUNITY-CITIZEN INVOLVEMENT	1117 5004	1117 1158 1249 5004	1025 1064 5004 5034
11. *HOME AND FAMILY*	1091 1117 1250 5009 8035	1084 1117 1158 1249 1250 5009 5010 5048	1084 5009 5029 5034 8000

TABLE 31: QUALITY OF WORKING LIFE CRITERIA AND EMPLOYEE CHARACTERISTICS: AGE

Employee Characteristics

QUALITY OF WORKING LIFE CRITERIA	YOUNG	MIDDLE	OLD
1. *ALIENATION*	1015 1032 1047 1052 1079 1084 1101 1128 1145 1169 1178 1219 1222 1223 1231 1235 1246 1268 5009 5010 5016 5028 5044 5049 8013 8026	1015 1032 1047 1063 1079 1101 1128 1169 1178 1181 1219 1222 1223 1231 1246 5010 5016 5028 5029 5049 8013 8026	1015 1101 1128 1169 1178 1181 1222 1223 1231 1246 1268 5010 5016 5028 5049 8013
2. *HEALTH AND SAFETY*	1014 1047 1069 1081 1101 1145 1222 1246 5009 5010 5034 5044 8013 8028	1014 1047 1069 1101 1144 1181 1222 1246 1268 5010 5029 5034 8013 8028	1069 1101 1144 1181 1183 1184 1193 1222 1246 5010 5034 8013
3. *ECONOMIC SECURITY*	1016 1052 1079 1145 1171 1178 1192 1196 1197 1199 1222 1246 1269 5010 5028 5044 5049 8013 8021	1016 1079 1096 1171 1178 1181 1192 1196 1197 1199 1222 1246 1269 5010 5028 5029 5049 8013	1171 1178 1181 1192 1196 1197 1199 1222 1246 5010 5028 5031 5039 5049 8013 8021
4. *SELF-ESTEEM*	1014 1084 1157 1196 1197 1199 1222 1268 5009 5010 5016 5034 5044 8013 8028	1014 1063 1096 1121 1157 1196 1197 1199 1222 5010 5016 5029 5034 8013 8028	1121 1157 1183 1184 1196 1197 1199 1222 1268 5010 5016 5031 5034 5039 8013
5. *SELF-ACTUALIZATION*	1084 1127 1196 1268 5009 5010 5044 5049 8028	1071 1144 1196 5010 5049 8028	1127 1144 1183 1184 1196 1268 5010 5039 5049
A. LEARNING AND GROWTH	1111 1196 1197 1199 1222 5009 5010 5016 5028 5044	1096 1111 1121 1196 1197 1199 1222 5010 5016 5028 5029	1121 1196 1197 1199 1222 5010 5016 5028 5031
B. USING EXISTING COMPETENCE	1052 1111 1196 1197 1199 1222 5009 5010 5016 8013 8021 8026	1096 1111 1121 1196 1197 1199 1222 5010 5016 5029 8004 8013 8026	1121 1196 1197 1199 1222 5010 5016 5039 8013 8021
6. *WORK ENVIRONMENT*			
A. PHYSICAL	1111 1246 5028 5044 5049	1063 1111 1246 5028 5049	1246 5028 5049
B. SOCIAL	1014 1047 1054 1077 1101 1111 1196 1197 1199 1222 1223 1246 5009 5010 5028 5034 5049 8013 8021 8026 8028	1014 1047 1063 1071 1101 1111 1196 1197 1199 1222 1223 1246 5010 5028 5029 5034 5049 8004 8013 8026 8028	1101 1125 1196 1197 1199 1222 1223 1246 5010 5028 5034 5039 5049 8013 8021

7. *CONTROL AND INFLUENCE*	1014 1047 1052 1053 1084 1101 1111 1127 1171 1196 1197 1199 1216 1231 1246 5009 5010 5016 5028 5044 5049 8013 8021 8028	1014 1047 1053 1063 1071 1101 1111 1171 1196 1197 1199 1216 1231 1246 5010 5016 5028 5029 5049 8013 8028	1053 1101 1127 1171 1196 1197 1199 1216 1231 1246 5010 5016 5028 5031 5039 5049 8013 8021
8. *ORGANIZATIONAL ENCLOSURE*	1000 1079 1111 1127 1157 1159 1178 1215 1231 1246 5009 5016 5028 5034 8013 8021 8028	1043 1079 1111 1144 1157 1159 1178 1215 1231 1246 5016 5028 5029 5034 8013 8028	1000 1043 1127 1144 1157 1159 1178 1215 1231 1246 5016 5028 5031 5034 5039 8013 8021
9. *CAREER ASPIRATIONS*	1014 1016 1045 1052 1079 1101 1111 1192 1222 1223 1269 5009 5010 5016 5028 5044 8026	1014 1016 1079 1096 1101 1111 1192 1222 1223 1269 5010 5016 5028 5029 8026	1101 1192 1222 1223 5010 5016 5028
10. *EXTRA-WORK ACTIVITIES*	1014 1047 1172 1222 1223 1269 5009 5010 5028 5034	1014 1047 1172 1222 1223 1225 1260 1269 5010 5028 5029 5034	1042 1172 1222 1223 5010 5028 5034
A. *CONSUMPTION*	5010 5034	5010 5034	5010 5034
B. *CREATION*		1063	
C. *COMMUNITY-CITIZEN INVOLVEMENT*	1047 1222 1223 5034 5044 8028	1047 1222 1223 5034 8028	1222 1223 5034
11. *HOME AND FAMILY*	1047 1084 1162 1170 1185 1269 5009 5010 5034 5044	1047 1162 1170 1185 1260 1269 5010 5029 5034 8004	1162 1170 5010 5034

TABLE 32: QUALITY OF WORKING LIFE CRITERIA AND EMPLOYEE CHARACTERISTICS: TENURE

Employee Characteristics

QUALITY OF WORKING LIFE CRITERIA	SHORT	MEDIUM	LONG
1. *ALIENATION*	1015 1032 1052 1079 1082 1083 1101 1145 1218 1268 5010 5028 5037 5038 5049 8031	1015 1032 1052 1079 1101 1145 1181 1218 5010 5028 5029 5037 5049 8013	1015 1063 1079 1083 1101 1181 1218 1251 5010 5028 5029 5037 5049 8013
2. *HEALTH AND SAFETY*	1101 1110 1134 1145 1147 5010 5034 5037 5038 8028	1022 1101 1134 1144 1145 1181 5010 5029 5034 5037 8013 8020 8028	1101 1134 1142 1144 1147 1181 1260 5010 5029 5034 5037 8013 8028
3. *ECONOMIC SECURITY*	1052 1079 1145 1147 5010 5028 5037 5038 5049 8021	1016 1052 1079 1096 1145 1181 5010 5028 5029 5037 5049 8013	1016 1079 1147 1181 5010 5028 5029 5037 5039 5049 8013
4. *SELF-ESTEEM*	1099 1157 1218 1268 5010 5034 8028	1020 1022 1096 1099 1121 1157 1218 5010 5029 5034 8013 8020 8028	1020 1063 1099 1121 1157 1218 1251 5010 5029 5034 5039 8013 8016 8028
5. *SELF-ACTUALIZATION*	1268 5010 5049 8028	1020 1129 1144 5010 5049 8020 8028	1020 1071 1144 5010 5039 5049 8028
A. LEARNING AND GROWTH	5010 5028	1096 1121 5010 5028 5029 8020	1121 5010 5028 5029
B. USING EXISTING COMPETENCE	1052 1099 1218 5010 5037 8021	1020 1052 1096 1099 1121 1129 1218 5010 5029 5037 8004 8013	1020 1099 1121 1218 5010 5029 5037 5039 8013
6. *WORK ENVIRONMENT*	1147		1147
A. PHYSICAL	1147 5028 5049	5028 5049 8020	1063 1147 5028 5049
B. SOCIAL	1057 1077 1101 1147 5010 5028 5034 5037 5049 8021 8028	1057 1101 1129 5010 5028 5029 5034 5037 5049 8004 8013 8020 8028	1057 1063 1071 1101 1125 1147 1251 5010 5028 5029 5034 5037 5039 5049 8013 8028

7. *CONTROL AND INFLUENCE*	1052 1057 1099 1101 1216 5010 5028 5037 5049 8021 8028	1012 1020 1048 1052 1053 1057 1099 1101 1163 1216 5010 5028 5029 5037 5049 8013 8020 8028	1020 1053 1057 1063 1071 1099 1101 1105 1163 1216 1251 5010 5028 5029 5037 5039 5049 8013 8028
8. *ORGANIZATIONAL ENCLOSURE*	1000 1079 1093 1099 1134 1157 1218 1227 5028 5034 5037 8021 8028	1000 1020 1048 1079 1092 1093 1099 1134 1144 1157 1218 5028 5029 5034 5037 8013 8028	1000 1020 1079 1093 1099 1134 1144 1157 1218 5028 5029 5034 5037 5039 8013 8028
9. *CAREER ASPIRATIONS*	1052 1079 1093 1099 1101 5010 5028	1016 1045 1052 1079 1093 1096 1099 1101 1129 5010 5028 5029	1016 1079 1093 1099 1101 5010 5028 5029
10. *EXTRA-WORK ACTIVITIES*	5010 5028 5034	5010 5028 5029 5034 8020	1260 5010 5028 5029 5034
A. CONSUMPTION	5010 5034	1025 5010 5034	1025 5010 5034
B. CREATION		1025	1025 1063
C. COMMUNITY-CITIZEN INVOLVEMENT	5034 8028	1025 5034 8028	1025 5034 8028
11. *HOME AND FAMILY*	5010 5034	5010 5029 5034 8004	1260 5010 5029 5034

TABLE 33: QUALITY OF WORKING LIFE CRITERIA AND EMPLOYEE CHARACTERISTICS: EDUCATION

Employee Characteristics

QUALITY OF WORKING LIFE CRITERIA	<HS	HS	COLLEGE	POST-GRADUATE
1. ALIENATION	1145 1208 1219 1222 1235 1255 5010 5016 5028 5029 8013 8026	1047 1089 1101 1145 1178 1208 1219 1222 1255 5010 5016 5028 5029 8026	1001 1005 1006 1032 1036 1047 1089 1098 1101 1149 1160 1178 1190 1208 1219 1255 5010 5016 5029 8008 8009 8026	1001 1013 1047 1052 1089 1160 5016
2. HEALTH AND SAFETY	1022 1145 1180 1222 5010 5029 5034 8013 8028	1047 1101 1110 1145 1180 1222 5010 5029 5034 8020	1006 1047 1101 1110 1144 1180 5010 5029 5034	1047 1080
3. ECONOMIC SECURITY	1145 1192 1208 1222 1255 5003 5010 5028 5029 8013	1016 1089 1145 1178 1192 1196 1197 1198 1199 1208 1222 1255 1269 5003 5010 5028 5029	1007 1008 1016 1089 1096 1098 1113 1178 1192 1196 1197 1198 1199 1208 1255 1269 5003 5010 5029	1007 1016 1052 1089 1102 1192 1269
4. SELF-ESTEEM	1022 1157 1208 1222 5010 5016 5029 5034 8013 8028	1157 1196 1197 1198 1199 1208 1222 1238 1239 5010 5016 5029 5034 8020	1001 1008 1036 1096 1098 1113 1149 1157 1190 1196 1197 1198 1199 1208 5010 5016 5029 5034 8008 8016	1001 5016
5. SELF-ACTUALIZATION	1127 1208 1255 5010 8028	1127 1196 1208 1255 5010 8020	1098 1136 1144 1160 1196 1208 1255 5010	1160
A. LEARNING AND GROWTH	1111 1222 1255 5010 5016 5028 5029	1111 1196 1197 1198 1199 1222 1238 1239 1255 5010 5016 5028 5029 8020	1008 1096 1111 1160 1190 1196 1197 1198 1199 1255 5010 5016 5029	1160 5016
B. USING EXISTING COMPETENCE	1111 1222 1255 5010 5016 5029 8013 8026	1026 1089 1095 1111 1196 1197 1198 1199 1222 1238 1255 5010 5016 5029 8026	1008 1026 1089 1095 1096 1111 1190 1196 1197 1198 1199 1221 1255 5010 5016 5029 8004 8026	1052 1089 1095 1221 5016
6. WORK ENVIRONMENT				
A. PHYSICAL	1111 1164 5028	1026 1111 1164 5028 8020	1026 1111 1164	1164
B. SOCIAL	1077 1111 1208 1222 5003 5010 5028 5029 5034 8013 8026 8028	1026 1047 1089 1101 1111 1196 1197 1198 1199 1208 1222 1238 5003 5010 5028 5029 5034 8020 8026	1001 1008 1026 1047 1062 1089 1098 1101 1111 1136 1196 1197 1198 1199 1208 1273 5003 5010 5029 5034 8004 8026	1001 1047 1057 1062 1089 5032

7. *CONTROL AND INFLUENCE*	1111 1127 1164 1208 1255 5010 5016 5028 5029 8013 8028	1026 1047 1053 1089 1095 1101 1111 1127 1164 1189 1196 1197 1198 1199 1208 1238 1239 1255 5010 5016 5028 5029 8020	1001 1005 1026 1036 1047 1053 1062 1065 1089 1095 1098 1101 1111 1113 1136 1149 1160 1164 1190 1196 1197 1198 1199 1208 1255 5010 5016 5029	1001 1047 1052 1053 1057 1058 1062 1089 1095 1160 1164 5016 5032
8. *ORGANIZATIONAL ENCLOSURE*	1043 1111 1127 1157 1255 5003 5016 5028 5029 5034 8013 8028	1043 1093 1111 1127 1157 1178 1189 1238 1239 1255 5003 5016 5028 5029 5034	1000 1006 1043 1086 1093 1111 1113 1136 1144 1157 1178 1255 5003 5016 5029 5034 8007 8009	5016
9. *CAREER ASPIRATIONS*	1111 1192 1208 1222 1255 5010 5016 5028 5029 8026	1016 1093 1101 1111 1192 1208 1222 1255 1269 5010 5016 5028 5029 8026	1001 1008 1016 1093 1096 1098 1101 1111 1113 1136 1149 1160 1192 1208 1255 1269 5010 5016 5029 8008 8026	1001 1016 1045 1052 1160 1192 1269 5016
10. *EXTRA-WORK ACTIVITIES*	1222 5010 5028 5029 5034	1047 1222 1269 5010 5028 5029 5034 8020	1047 1225 1269 5010 5029 5034	1047 1225 1269
A. CONSUMPTION	5010 5034	5010 5034	5010 5034	
B. CREATION		1089	1089	1089
C. COMMUNITY-CITIZEN INVOLVEMENT	1213 1222 5034 8028	1047 1213 1222 5034	1047 1213 5034 8008	1047
11. *HOME AND FAMILY*	1180 1213 5010 5029 5034	1047 1180 1213 1269 5010 5029 5034	1047 1113 1180 1213 1269 5010 5029 5034 8004	1047 1269

TABLE 34: QUALITY OF WORKING LIFE CRITERIA AND EMPLOYEE CHARACTERISTICS: SEX

Employee Characteristics

QUALITY OF WORKING LIFE CRITERIA	*MALE*	*FEMALE*
1. *ALIENATION*	1009 1015 1017 1032 1047 1052 1068 1084 1089 1101 1128 1145 1151 1166 1181 1188 1191 1201 1202 1205 1208 1211 1214 1219 1222 1223 1231 1246 1247 1251 1255 1256 5004 5006 5009 5010 5011 5014 5016 5017 5018 5020 5023 5028 5029 5037 5038 5041 5043 5044 5048 5049 8013 8031	1006 1015 1021 1041 1047 1052 1082 1089 1101 1128 1149 1169 1191 1202 1205 1208 1211 1222 1231 1252 1255 1268 5004 5006 5014 5016 5017 5028 5038 5043 5044 8013
2. *HEALTH AND SAFETY*	1014 1047 1055 1069 1080 1081 1101 1110 1117 1123 1124 1126 1142 1145 1147 1174 1180 1181 1183 1184 1193 1222 1246 1247 1253 5001 5004 5006 5009 5010 5014 5017 5018 5020 5029 5034 5037 5038 5044 5046 5047 5048 8013 8028	1006 1014 1047 1081 1101 1147 1174 1180 1183 1184 1193 1222 5004 5006 5014 5017 5027 5038 5044 8013 8028
3. *ECONOMIC SECURITY*	1016 1037 1052 1056 1064 1089 1096 1102 1109 1119 1126 1137 1145 1146 1147 1161 1181 1187 1188 1191 1192 1200 1202 1208 1214 1222 1246 1249 1254 1255 1269 5004 5006 5010 5014 5015 5017 5018 5019 5028 5029 5031 5036 5037 5038 5039 5041 5044 5046 5047 5048 5049 8013 8017	1021 1037 1052 1056 1089 1119 1147 1187 1191 1192 1202 1208 1222 1252 1255 5004 5006 5014 5015 5017 5027 5028 5038 5044 8013 8021
4. *SELF-ESTEEM*	1014 1031 1064 1070 1084 1096 1110 1121 1124 1132 1138 1157 1161 1177 1183 1184 1200 1208 1214 1222 1238 1239 1249 1251 5001 5004 5006 5009 5010 5014 5015 5016 5017 5018 5020 5029 5031 5034 5036 5039 5041 5044 5046 5047 5048 8013 8016 8028 8033	1014 1070 1119 1132 1149 1177 1183 1184 1208 1222 1252 1268 5004 5006 5014 5015 5016 5017 5044 8013 8028
5. *SELF-ACTUALIZATION*	1037 1084 1127 1129 1136 1138 1161 1183 1184 1200 1208 1255 5004 5009 5010 5014 5015 5017 5018 5039 5044 5048 5049 8028	1018 1037 1127 1183 1184 1208 1255 1268 5004 5014 5015 5017 5044 8019 8023 8028
A. LEARNING AND GROWTH	1074 1096 1111 1119 1121 1126 1138 1202 1205 1206 1220 1222 1238 1239 1255 5004 5006 5009 5010 5011 5016 5017 5020 5028 5029 5031 5044 5046 5048	1111 1119 1202 1205 1206 1222 1255 5004 5006 5016 5017 5028 5044
B. USING EXISTING COMPETENCE	1037 1052 1056 1064 1089 1096 1111 1119 1121 1129 1138 1191 1206 1222 1234 1238 1255 5001 5004 5006 5009 5010 5011 5014 5016 5020 5029 5037 5039 5046 5047 5048 8004 8013 8015	1037 1052 1056 1089 1111 1119 1191 1206 1222 1252 1255 5004 5006 5014 5016 8013 8021 8023
6. *WORK ENVIRONMENT*	1147	1147

A. PHYSICAL	1111 1147 1164 1214 1246 5006 5020 5028 5041 5044 5047 5049	1111 1147 1164 5006 5028 5044
B. SOCIAL	1014 1031 1037 1038 1047 1054 1056 1070 1074 1077 1089 1091 1094 1101 1109 1111 1116 1119 1125 1129 1132 1136 1146 1147 1158 1161 1166 1175 1187 1191 1200 1202 1206 1208 1210 1214 1222 1223 1228 1234 1238 1246 1251 1258 1263 1271 1272 1273 5001 5004 5006 5009 5010 5011 5015 5017 5018 5020 5028 5029 5034 5036 5037 5039 5041 5046 5047 5048 5049 8004 8013 8017 8028	1014 1037 1047 1056 1070 1089 1101 1111 1116 1119 1132 1147 1175 1187 1191 1202 1206 1208 1222 1228 1243 1263 1272 1273 5004 5006 5015 5017 5028 8013 8021 8023 8028
7. *CONTROL AND INFLUENCE*	1012 1014 1031 1047 1052 1053 1074 1084 1089 1091 1101 1111 1115 1116 1119 1124 1126 1127 1132 1136 1138 1146 1158 1161 1163 1164 1166 1175 1177 1187 1200 1202 1205 1206 1208 1214 1216 1231 1238 1239 1246 1247 1249 1251 1255 1258 1272 5001 5004 5006 5009 5010 5011 5015 5016 5017 5018 5020 5028 5029 5031 5036 5037 5039 5041 5044 5046 5047 5048 5049 8001 8013 8015 8017 8028	1014 1018 1021 1047 1048 1052 1053 1089 1101 1111 1115 1116 1119 1127 1132 1149 1163 1164 1175 1177 1187 1202 1205 1206 1208 1216 1231 1232 1243 1244 1255 1272 5004 5006 5015 5016 5017 5028 5044 8013 8021 8023 8028
8. *ORGANIZATIONAL ENCLOSURE*	1000 1017 1043 1070 1086 1092 1093 1094 1111 1127 1136 1138 1157 1186 1201 1214 1227 1231 1233 1238 1239 1246 1247 1249 1255 1271 5001 5004 5006 5009 5011 5014 5015 5016 5017 5018 5020 5028 5029 5031 5034 5036 5037 5039 5041 5043 5048 8013 8028 8033	1000 1006 1021 1048 1070 1093 1111 1127 1186 1227 1231 1236 1243 1244 1252 1255 5004 5006 5014 5015 5016 5017 5028 5043 8013 8021 8028
9. *CAREER ASPIRATIONS*	1014 1016 1017 1052 1064 1093 1096 1101 1111 1119 1129 1136 1188 1191 1192 1202 1208 1214 1222 1223 1255 1269 5004 5009 5010 5015 5016 5017 5020 5028 5029 5036 5041 5044 5047 5048 8001	1014 1052 1093 1101 1111 1119 1149 1191 1192 1202 1208 1222 1255 5004 5015 5016 5017 5028 5044
10. *EXTRA-WORK ACTIVITIES*	1014 1047 1064 1091 1158 1172 1173 1186 1191 1214 1222 1223 1224 1225 1269 5009 5010 5014 5019 5028 5029 5034 5048	1014 1047 1172 1186 1191 1222 1224 5014 5028
A. CONSUMPTION	5010 5018 5034	
B. CREATION	1089 1158	1089
C. COMMUNITY-CITIZEN INVOLVEMENT	1047 1064 1117 1158 1173 1213 1222 1223 1249 5004 5018 5019 5034 5044 8001 8028	1047 1222 5004 5044 8028
11. *HOME AND FAMILY*	1027 1047 1084 1091 1117 1158 1162 1173 1180 1213 1249 1269 5009 5010 5018 5019 5029 5034 5036 5044 5048 8001 8004	1047 1170 1180 1185 5044

TABLE 35: QUALITY OF WORKING LIFE CRITERIA AND EMPLOYEE CHARACTERISTICS: RACE

Employee Characteristics

QUALITY OF WORKING LIFE CRITERIA	WHITE	BLACK	OTHER
1. ALIENATION	1211 1214 1255 5009 5010 5016 5037 5044 8013	1011 1202 1211 5044 8031	1178
2. HEALTH AND SAFETY	1069 1080 1183 1184 1253 5009 5010 5034 5037 5044 8013	1183 1184 5044	8020
3. ECONOMIC SECURITY	1214 1255 1266 1269 5010 5037 5044 8013 8017	1044 1202 1254 5044	1178 1266
4. SELF-ESTEEM	1183 1184 1214 5009 5010 5016 5034 5044 8013	1044 1183 1184 5044	1157 8020 8033
5. SELF-ACTUALIZATION	1183 1184 1255 5009 5010 5044	1011 1183 1184 5044	8020
A. LEARNING AND GROWTH	1255 5009 5010 5016 5044	1202 5044	8020
B. USING EXISTING COMPETENCE	1255 5009 5010 5016 5037 8013		
6. WORK ENVIRONMENT			
A. PHYSICAL	1214 5044	1011 5044	8020
B. SOCIAL	1214 5009 5010 5034 5037 8013 8017	1011 1077 1202	8020
7. CONTROL AND INFLUENCE	1214 1255 5009 5010 5016 5037 5044 8013 8017	1011 1202 5044	8020
8. ORGANIZATIONAL ENCLOSURE	1214 1255 1266 5009 5016 5034 5037 8013		1092 1157 1178 1213 1266 8033
9. CAREER ASPIRATIONS	1214 1255 1269 5009 5010 5016 5044	1044 1202 5044	
10. EXTRA-WORK ACTIVITIES	1214 1266 1269 5009 5010 5034		1266 8020
A. CONSUMPTION	1257 5010 5034		
B. CREATION		1011	
C. COMMUNITY-CITIZEN INVOLVEMENT	1213 1266 5034 5044	5044	1213 1266
11. HOME AND FAMILY	1213 1266 1269 5009 5010 5034 5044	5044	1162 1185 1213 1266

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MAJOR INDEX SECTIONS:

Quality of Working Life Criteria

Work and Organizational Factors (Organizational Variables)

Companies and Agencies, named in abstracts

Occupations and Occupational Titles cited in studies (e.g., Attorneys.)

INDEX NUMBERING

All numbers cited in the index are abstract numbers; there are no page numbers. Abstracts numbered from 1000 are published articles; abstract numbers from 5000 designate published books and monographs; and numbers from 8000 indicate unpublished books, articles, and case studies.

I N D E X

QUALITY OF WORKING LIFE CRITERIA

1. ALIENATION

(General; from work; normlessness, isolation, powerlessness, anomia, self-estrangement; turnover, absenteeism, tardiness, "job-hopping"; leaving the job, propensity to leave; grievances; "Blue-Collar Blues"; work stoppages, "go-slows:" strikes; positive attitudes toward strikes, unions, militancy; expressed boredom or dislike of job; perceived meaninglessness of work, lack of personal involvement with work, withdrawal from work situation.) 1001, 1005, 1006, 1009, 1011, 1012, 1013, 1015, 1017, 1021, 1023, 1030, 1032, 1033, 1036, 1040, 1041, 1047, 1049, 1052, 1059, 1063, 1068, 1075, 1082, 1083, 1084, 1088, 1089, 1098, 1107, 1108, 1114, 1118, 1128, 1143, 1144, 1145, 1149, 1150, 1151, 1154, 1160, 1166, 1169, 1176, 1178, 1181, 1188, 1190, 1191, 1201, 1212, 1205, 1207, 1208, 1209, 1211, 1214, 1217, 1219, 1222, 1223, 1226, 1231, 1235, 1240, 1246, 1247, 1248, 1250, 1251, 1252, 1255, 1256, 1259, 1262, 1264, 1268, 1270, 5000, 5002, 5004, 5005, 5006, 5008, 5009, 5010, 5011, 5014, 5016, 5017, 5018, 5020, 5022, 5023, 5028, 5029, 5030, 5033, 5036, 5037, 5038, 5040, 5041, 5043, 5048, 5049, 5050, 8000, 8005, 8008, 8009, 8011, 8012, 8013, 8014, 8018, 8026, 8029, 8030, 8031, 8034, 8035

2. HEALTH AND SAFETY

Mental Health
(Stress, tension, pressure; anxiety, depression; mentally-strenuous work; schizophrenia; frustration.) 1006, 1014, 1022, 1039, 1047, 1114, 1123, 1124, 1126, 1147, 1154, 1180, 1222, 1250, 1253, 5000, 5001, 5002, 5004, 5006, 5007, 5010, 5014, 5022, 5027, 5029, 5030, 5033, 5034, 5047, 5048, 5051, 8013

Index (continued)

2. (continued)

Physical Health — 1055, 1069, 1080, 1081, 1110, 1114, 1117, 1123, 1124, 1126, 1142, 1166, 1174, 1181, 1183, 1184, 1193, 1209, 1222, 1237, 1246, 1247, 1260, 5002, 5009, 5010, 5017, 5024, 5029, 5034, 5035, 5038, 5047, 5048, 8013

(Sickness absence, coronary disease, peptic ulcer, psychosomatic disorders, longevity, fatigue, biochemical stress reactions, medical claims, infirmary calls and dispensary visits, physical deconditioning on long-duration space flight.)

Safety — 1049, 1134, 1145, 1166, 1174, 1209, 1229, 1237, 1248, 1262, 1264, 5020, 5037, 5038, 5046, 5047, 8020, 8028

(Accidents, unsafe work areas, danger.)

3. ECONOMIC SECURITY

Methods of Pay, and Preferences for — 1007, 1059, 1075, 1081, 1109, 1143, 1145, 1171, 1202, 1215, 1222, 1246, 1252, 1255, 1262, 5002, 5006, 5008, 5024, 5028, 5037, 5038, 5041, 5046, 5049, 8013, 8017, 8025

(Piece rate, incentive plans, Scanlon Plan, bonuses, fringe benefits, payment systems and change in, earnings potential and change in, economic development program, sharing paynote; "effort-bargain.")

Pay and Salary, and Attitudes toward — 1007, 1010, 1016, 1023, 1037, 1044, 1052, 1056, 1064, 1075, 1089, 1093, 1096, 1102, 1114, 1119, 1120, 1139, 1145, 1178, 1188, 1191, 1202, 1208, 1209, 1214, 1222, 1240, 1246, 1249, 1250, 1254, 1266, 1269, 5000, 5002, 5003, 5006, 5008, 5010, 5012, 5014, 5015, 5017, 5018, 5019, 5028, 5030, 5035, 5036, 5037, 5039, 5041, 5049, 8017, 8025, 8035

(Income, income level, family income; income aspirations; importance attached to pay; pay expectations; "fair pay"; pay upgrading; wage disparity; pay increases, actual pay, pay level, perceived and real value of pay, pay as measure of success and status; wages, earnings, gross earnings; standard of living; affluent workers; extrinsic job components.)

Pay and Salary, Satisfaction with; Effective Reward Systems — 1003, 1004, 1007, 1021, 1052, 1078, 1096, 1113, 1114, 1120, 1126, 1137, 1139, 1147, 1176, 1191, 1192, 5015, 5029, 5030, 5037, 5039, 5041, 5047, 5048, 5049

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3. (continued)

Security — 1007, 1037, 1056, 1072, 1075, 1109, 1114, 1119, 1154, 1181, 1187, 1208, 1222, 1266, 5000, 5004, 5005, 5010, 5015, 5018, 5029, 5033, 5035, 5041, 5047, 5049, 5051, 8021

(Job security; threats to job security; layoffs; loss of job; unemployment; irregular employment and reduced work hours; redundancy; risk of displacement by automation, etc.; compulsory retirement; savings or lack of; employment continuity; uncertainty about pay system; keeping employees on payroll past their usefulness.)

Security Needs and Satisfaction of Needs — 1008, 1061, 1096, 1098, 1113, 1139, 1140, 1146, 1161, 1182, 1195, 1196, 1197, 1198, 1199, 1200, 1230, 5021, 5039, 5048

4. SELF-ESTEEM — 1031, 1124, 5010, 5016, 5029, 5034, 8013

Authority and Responsibility, Perceived — 1177, 5004, 5009, 5026, 5033, 5036, 5047, 8000

(Decision-making, satisfaction with influence on decisions, authority; perception of job as responsible; perceived exclusion from decision-making; constant inspection of one's work by superiors.)

Competence and Achievement, Satisfaction of Need for — 1097

Competence and Achievement, Sense of — 1024, 1075, 1097, 1149, 1165, 1190, 1239, 1248, 1251, 1252, 1268, 5009, 5016, 5026, 5033, 5048, 8028, 8034

(Perception of job as requiring skill; becoming competently multiskilled; sense of having requisite knowledge and ability to do the job; satisfaction with completing whole tasks; pride in capacity for doing the work; feeling one's efforts brought results; erosion of individual's assessment of own work; feeling workload too heavy to do well; pride of workmanship and lack of.)

4. (continued)

Esteem, Need for; Satisfaction of Need for; Perceived — 1061, 1085, 1096, 1097, 1098, 1099, 1119, 1121, 1136, 1139, 1141, 1161, 1182, 1195, 1196, 1197, 1198, 1199, 1200, 1230, 5004, 5021, 5039, 8016

Meaningfulness/Meaninglessness of Job — 1023, 1078, 1084, 1138, 1154, 1157, 1183, 1184, 1226, 1252, 5004, 5007, 8005, 8028

(Feeling one's job is important; sense of doing something worthwhile; sense of task accomplishment; pride of accomplishment and achievement and lack of; job pride; perceived meaninglessness or meaningfulness of work; job involvement and intrinsic motivation; identifying with the product; work satisfaction as perception of general usefulness.)

Recognition and Respect; Needs for; Satisfaction with — 1001, 1003, 1004, 1008, 1031, 1066, 1070, 1078, 1087, 1107, 1114, 1149, 1208, 1214, 1217, 1248, 1255, 5006, 5007, 5015, 5017, 5022, 5041, 8003, 8008

(Respect from peers, colleagues, superiors; recognition for achievement; being fairly evaluated; professional recognition in one's field; recognition for job well done; recognition by work group; receiving credit; being valued; lack of rewards for performance.)

Self-Respect — 1010, 1035, 1119, 1218, 1222, 5000, 5001, 5004, 5010, 5012, 5014, 5020, 5022, 5033, 8033

(Individual self-image; occupational identity; self-confidence; sense of self-worth.)

4. (continued)

Status and Prestige — 1008, 1014, 1022, 1028, 1036, 1044, 1064, 1113, 1119, 1124, 1132, 1157, 1195, 1196, 1197, 1198, 1199, 1209, 1214, 1217, 1249, 5000, 5004, 5008, 5009, 5017, 5021, 5033, 5036, 5040, 5041, 5051, 8020, 8035

(Perceived status and importance in the organization; stating of position; hierarchical status differences; dissatisfaction with relative status of job and work group; status in community; status enhancement; need for association with top management. Perceived job prestige; perceived job-related community prestige; satisfaction with role expectations; professional identification and professionalism; occupational or work role identity; feelings of social inferiority.)

5. SELF-ACTUALIZATION — 1071, 5008

Creativity and Innovativeness — 1136, 1144, 1160, 1189, 1194, 5014, 5033

(Climate conducive to innovativeness; self-expression; environment conducive to pursuing own research goals; professional climate; satisfaction of professional values of unrestricted research; working on research ideas most satisfying to self.)

Challenge and Achievement; Perceived Challenge and Achievement; Opportunities for — 1010, 1023, 1034, 1072, 1075, 1129, 1208, 1218, 5004, 5014, 5015, 5017, 5022, 8028

Humanized Working Conditions, General Motors Vega Plant Strike for — 1084

Learning, Development of Abilities, Growth; Needs and Opportunities for — 1127, 1194, 5010, 5012, 5018, 5025, 5032, 5050

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5. (continued)

Motivation (Intrinsic motivation, motivational structure, intrinsically self-rewarding work.)	1138, 1268, 5018, 5049
Responsibility and Initiative; Decision-Making	1011, 1024, 1255, 5031, 5050
Self-Actualization, Satisfaction of Need for	1018, 1037, 1061, 1085, 1098, 1138, 1139, 1140, 1161, 1182, 1200, 1230, 1268, 5021, 5039
Using Existing Competence and Knowledge (Includes opportunities for; satisfaction with opportunities for.)	1003, 1020, 1034, 1144, 5008, 5031
Variety in the Work, or Lack of	1023, 1037, 5009, 5048, 5050
Work Satisfaction as Ability to Perform Meaningful Social Role	1183, 1184

5a. SELF-ACTUALIZATION: LEARNING AND GROWTH

Challenge	1075
Knowledge and Education as Prerequisites for Job or for Advancement (Need for knowledge to do job; education as prerequisite; perceived need for more education due to job changes, including technological change.)	1119, 5010, 5035
Learning on and from the Job; Opportunity for; Satisfaction with Opportunity for	1004, 1040, 1049, 1050, 1078, 1108, 1111, 1119, 1121, 1126, 1190, 1238, 1239, 1262, 5004, 5007, 5009, 5010, 5016, 5017, 5020, 5029, 5046, 5048, 8000, 8020, 8029, 8036

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5a.(continued)

Learning Other than On-the-Job; Opportunity for; Satisfaction with Opportunity for — 1112, 1160, 1190, 1202, 1220, 1255, 5010, 5030, 5051

(Opportunity for; satisfaction with opportunity for; schooling, classes, skills training, training programs, sensitivity training.)

Personal Development, Growth, Creativity — 1035, 1074, 1078, 1138, 1154, 1182, 1190, 1195, 1196, 1197, 1198, 1199, 1202, 1205, 1206, 1222, 1255, 5004, 8022, 8037

(Job perceived to allow or prohibit creativity; problem-solving through creative group effort; "growing as an individual"; making suggestions; opportunities for development.)

Self-Actualization (Learning and Growth): Satisfaction of Need for — 1008, 1097, 1121, 1196, 1197, 1198, 1199

5b.SELF-ACTUALIZATION: USING EXISTING COMPETENCE

Creativity — 1035, 1076, 1165, 1190, 1206, 1222, 5007, 5037, 8000

(Creative problem-solving, creative thinking; expressing new ideas; being experimental; encouragement to generate ideas; chance to contribute something personal and unique.)

Professionalism — 1008, 1020, 1026, 1089, 1138, 1165, 1221, 5033

(Satisfaction with contribution to technical knowledge; professionalism; opportunity and freedom to do own research aims; job perceived as appropriate to scientific skills.)

Self-Actualization, Satisfaction of Need for — 1008, 1097, 1099, 1121, 1195, 1196, 1197, 1198, 1199

5b.(continued)

Structural Constraints on or Conditions for Using Existing Competence — 1020, 1056, 1064, 1095, 1100, 1119, 1221, 1222, 5037, 5048, 8021, 8023

(Degree of organizational centralization; automation; administrative framework and limitations of organizational system; supervisory or administrative controls; job enlargement; increased or decreased functional specialization of tasks; barriers to working productively.)

Use of Existing Competence — 1008, 1020, 1026, 1052, 1059, 1072, 1075, 1078, 1097, 1190, 1206, 1234, 1238, 1240, 1252, 1255, 5001, 5004, 5006, 5007, 5008, 5009, 5010, 5012, 5014, 5016, 5020, 5021, 5030, 5033, 5035, 5037, 5046, 5050, 8004, 8015

(Using skills, abilities, knowledge, and training; decision-making regarding work methods, production pace, quality, and quantity; direct worker intervention in process; problem-solving; responsibility; improvement suggestions; team collaboration; knowledge-based risk-taking; individual effort.)

Use of Existing Competence, Opportunity for; Satisfaction with Opportunity for — 1004, 1037, 1096, 1097, 1099, 1111, 1129, 1165, 1222, 5004, 5011, 5030, 5047

Use of Existing Competence, Perceived; Unused Competence, Perceived — 1066, 1119. 1138, 1165, 1195, 1196, 1197, 1198, 1199, 1268, 5004, 5009, 5011, 5013, 5029, 5033, 5035, 5047, 5048, 8028

(Perceived use of knowledge, abilities, skills; perceived job challenge; feeling one's knowledge and abilities are no longer needed due to automation and other technological change; feeling skills not used on job; feeling one could do more difficult work; perception of being excluded from problem-solving or decision-making.)

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5b.(continued)

Work Demands on Existing Competence; and Perceptions of
(Having all necessary skills for work task; multi-skilled roles; demand for motor, perceptual, or conceptual skills; task complexity; tasks designed to require higher-order abilities; perceived increase in cognitive demands of jobs and increased need for manager to use knowledge after automation; lack of required professional knowledge.)
1056, 1063, 1104, 1119, 1190, 1194, 1222, 1252, 1262, 5000, 5008, 5009, 5010, 5046, 8013

Miscellaneous
(Accomplishment and workmanship, lack of pride in; worker interest in job problems; chance to excel; retention of skills and mental abilities.)
1168, 1248, 5050, 8026

6. WORK ENVIRONMENT
1054

6a.PHYSICAL WORK ENVIRONMENT

Environmental Factors; Safety
(Noise, heat, smoke, dirt, danger.)
1063, 1164, 1248, 5002, 5009, 5035, 5047

General Physical Working Conditions
(Recreation and other facilities, "unpredictable" environment, missing familiar surroundings after transfer; compulsory overtime.)
1107, 1111, 1119, 1246, 1250, 1262, 5020, 5041, 5049

Satisfaction with Physical Work Environment
1147, 1176, 5041, 5047

Technology-Related Factors
(Supplies and equipment; type of tools; other technical factors.)
1104, 1209, 1248, 5006

6a. (continued)

Workers' Improvement of the Workplace — 1214, 8000
(Voluntary; encouragement of.)

Workplace Layout; Constraints on the Worker — 1063, 1081, 1248, 1262, 5009, 5028, 5032, 5047, 8020
(Plant layout; spatial separation of workers; lack of mobility; confined vs. open workspace; "cell"-type vs. "landscape"-type offices; status symbols; drab work and eating areas; closed-in feeling.)

6b. SOCIAL WORK ENVIRONMENT

Communication and Information Flow — 1008, 1024, 1029, 1049, 1059, 1066, 1087, 1103, 1116, 1135, 1152, 1217, 1228, 1241, 1243, 1262, 1270, 1271, 5001, 5005, 5008, 5020, 5037, 5050, 5051
(Including patterns of communication; formalization of communications; sharing knowledge; candor and "openness"; "liaisons" vs. "isolates"; communication between work teams.)

Influence — 1074, 1155, 5028, 5046
(Worker choice of workmates or supervisor.)

Interpersonal Relations, Non-Task-Oriented — 1001, 1008, 1010, 1011, 1029, 1033, 1034, 1037, 1040, 1054, 1063, 1072, 1076, 1077, 1078, 1089, 1098, 1107, 1109, 1116, 1131, 1158, 1163, 1182, 1197, 1202, 1209, 1214, 1217, 1223, 1234, 1238, 1250, 1262, 1270, 1271, 1272, 1274, 5000, 5001, 5003, 5004, 5008, 5009, 5015, 5025, 5028, 5029, 5030, 5033, 5036, 5037, 5040, 5046, 5047, 5048, 5049, 5050, 5051, 8021, 8022, 8028, 8036
(Perceptions about; satisfaction with. Congeniality, esprit, intimacy, openness, trust-distrust, interaction, failure to interact, and opportunity for interaction; compatibility; conflict; cooperation vs. competitiveness. Group solidarity, cohesion, supportiveness/divisiveness, conflict, integration; social-behavioral norms; coping with emotions in group setting; expressive relations.)

6b.(continued)

Interpersonal Relations, Task-Oriented

(SUPERIOR-SUBORDINATE: managerial, supervisory, and leadership style; "structure" vs. "consideration"; contacts with superiors; satisfaction with superior-subordinate relations; perceptions of.) 1002, 1003, 1004, 1024, 1031, 1047, 1049, 1062, 1063, 1070, 1071, 1073, 1075, 1076, 1090, 1091, 1103, 1111, 1113, 1114, 1125, 1130, 1131, 1133, 1136, 1148, 1153, 1155, 1156, 1163, 1165, 1166, 1167, 1175, 1179, 1187, 1191, 1202, 1203, 1204, 1206, 1208, 1210, 1214, 1217, 1222, 1245, 1251, 1258, 1259, 1262, 1273, 1274, 5002, 5003, 5004, 5006, 5007, 5009, 5010, 5011, 5015, 5017, 5020, 5021, 5022, 5024, 5026, 5027, 5029, 5030, 5036, 5041, 5046, 5047, 5048, 5049, 5051, 8000, 8004, 8024, 8027, 8037

(PEER-PEER; GROUP: peer leadership; teamwork; task interdependence; group cooperation, collaboration, coordination, competition, conflict; shared vs. individual effort; group and team responsibility; joint problem-solving; shared vs. individual effort, mutual help; sense of team membership, team spirit; "group effects"; participative groups; participative group process; group social and behavioral norms, group effectiveness; crew self-sufficiency; mutual influence within group; interaction facilitation; inter-group.) 1003, 1008, 1011, 1014, 1024, 1029, 1035, 1040, 1046, 1047, 1057, 1059, 1063, 1066, 1073, 1074, 1075, 1076, 1098, 1107, 1109, 1119, 1125, 1129, 1131, 1147, 1148, 1154, 1175, 1202, 1209, 1214, 1217, 1223, 1234, 1245, 1248, 1250, 1259, 1262, 1263, 1270, 1271, 1274, 5000, 5001, 5004, 5006, 5008, 5009, 5018, 5020, 5021, 5022, 5024, 5025, 5028, 5029, 5030, 5032, 5033, 5035, 5036, 5037, 5040, 5045, 5046, 5047, 5048, 5049, 5050, 5051, 8000, 8002, 8003, 8017, 8020, 8023, 8024, 8026, 8028, 8030, 8032, 8036

Social Isolation

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Social Needs; Satisfaction of — 1040, 1085, 1096, 1139, 1182, 1196, 1197, 1198, 1199, 1230, 5021, 5039

Social System (Stress and strain in; hierarchical structure of; changes in, etc.) — 1059, 1091, 1158, 1200, 1250, 5008, 5015, 5028, 5030, 5033

Work Group Characteristics and Behavior (Group size; opportunity for interaction; age ratio; "interaction time.") — 1056, 1063, 1073, 1075, 1091, 1094, 1147, 1148, 1158, 1246, 1258, 5035, 5046, 8020, 8035

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7. CONTROL AND INFLUENCE

Authority; Perceived Authority; Satisfaction with Authority — 1001, 1036, 1049, 1065, 1093, 1095, 1108, 1114, 1126, 1130, 1146, 1154, 1177, 1190, 1191, 1196, 1197, 1198, 1199, 5008, 5011, 5049, 5051

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Autonomy, Satisfaction of Need for — 1018, 1036, 1061, 1085, 1097, 1099, 1113, 1114, 1138, 1139, 1140, 1161, 1182, 1195, 1196, 1197, 1198, 1199, 1200, 1230, 5021, 5039

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(Individual, on own job; perceived; discretion, opportunity to exercise; control over immediate work process; perceived lack of; work pace control by machine; organizational vs. individual control of research projects.)

Autonomy, Work Group — 1053, 1076, 1091, 1133, 1136, 1206, 1217, 1238, 1239, 1245, 1255, 1262, 5009, 5028, 5041, 5046, 5050, 8002, 8012, 8015, 8020, 8023, 8025, 8036

(Work team influence on work methods and schedules; autonomous group process; worker allocation of tasks and job rotation within work group; group decision-making and problem-solving; worker selection of workmates for crew or team; research group autonomy.)

Bureaucratization. See Structural Constraints

Centralization of Authority. See Structural Constraints

Control — 1014, 1049, 1050, 1119, 1126, 1138, 1151, 1154, 1156, 1160, 1176, 1190, 1202, 1226, 1231, 1249, 5004, 5006, 5007, 5008, 5009, 5010, 5015, 5016, 5018, 5020, 5025, 5028, 5030, 5033, 5036, 5046, 5051, 8000, 8001, 8006, 8013, 8036

(Perceived, over events in department; by management or workers; hierarchical; informal; individual loss of, over career; perceived, over job tasks; loss of environmental.)

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(Individual; group; centralized vs. participative; discretion, opportunities for; number of decisions made; decisional saturation, equilibrium, or deprivation.)

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(Satisfaction with; power in organizational affairs; influence on the system, over events in department, on governmental decisions.)

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Influence on Superiors (or Lack of)
(Regarding decisions or work methods; superior accepts subordinate's ideas; worker-supervisor equality; dependency on superior.)
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Initiative and Innovation
1011, 1058, 1156, 1217, 5007, 5020, 5021, 8020, 8028, 8036

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(Authoritative/permissive supervision; participative supervision; joint vs. consultative decision-making; climate; closeness of supervision, etc.)
1011, 1019, 1026, 1029, 1034, 1047, 1051, 1062, 1073, 1074, 1076, 1084, 1103, 1105, 1109, 1113, 1136, 1164, 1165, 1175, 1182, 1191, 1206, 1208, 1214, 1245, 1248, 1262, 1274, 5000, 5001, 5006, 5008, 5016, 5021, 5036, 5045, 5048, 5049, 5051

Participation
(Participative management; perceived opportunity to participate in goal-setting; individual; participative bodies; subordinate participation vs. centralized decision-making; exclusion of employees from, by management.)
1001, 1031, 1036, 1039, 1062, 1071, 1073, 1074, 1089, 1095, 1098, 1105, 1111, 1116, 1120, 1122, 1127, 1160, 1164, 1175, 1189, 1190, 1195, 1196, 1197, 1198, 1199, 1201, 1204, 1206, 1217, 1245, 1255, 1274, 5000, 5003, 5007, 5013, 5015, 5018, 5020, 5021, 5030, 5050, 8001, 8003, 8014, 8024

Responsibility
(Satisfaction with and attitude toward; worker, for product standards; assembly-line pace, production goals, safety; individual, perceived; desire for; excessive; shared, in work groups; delegation of, and managerial willingness to delegate; diffusion downward of; accountability.)
1011, 1020, 1026, 1048, 1040, 1050, 1052, 1058, 1059, 1065, 1075, 1076, 1107, 1124, 1149, 1154, 1190, 1194, 1214, 1226, 1247, 1250, 1255, 1262, 1270, 5000, 5001, 5006, 5007, 5008, 5009, 5010, 5016, 5017, 5018, 5020, 5022, 5029, 5030, 5036, 5046, 5048, 5051, 8006, 8020, 8023, 8028

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(Span of control; bureaucratization; formalization of roles; hierarchical authority; interdependence; rules and standards; reward structure; work group size; shift vs. day work; branch or departmental autonomy; perceived constraints.)

Work Pressure — 1131, 5025

(Induced by environmental cues; perceived.)

Miscellaneous — 1088, 1089, 1119, 1132, 1149, 1248, 5000, 5039, 8035

(Includes "power shift," power due to expertise; "rule tropism"; transfer without notice; perceived role clarity; time horizon for feedback.)

8. ORGANIZATIONAL ENCLOSURE

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(Includes job and work involvement; identifying with job; motivation; work role involvement and importance; high vs. low effort; job enjoyment, interest; pride and interest in product; concern for product quality; suggestions for method improvements; voluntary overtime and arriving early for work.)

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(Includes staying on the job; lifetime commitment.)

Loyalty — 1089, 1144, 1167, 1178, 1231, 1232, 1244, 5004, 5015, 8030

(To employer; to organization; to superior; refusal to be transferred.)

Organizational Identification and Integration — 1000, 1006, 1017, 1020, 1034, 1043, 1046, 1050, 1070, 1086, 1087, 1092, 1093, 1094, 1097, 1099, 1111, 1113, 1127, 1133, 1143, 1147, 1148, 1154, 1156, 1178, 1179, 1189, 1194, 1201, 1217, 1218, 1231, 1233, 1238, 1239, 1255, 1262, 1266, 1267, 1271, 5001, 5003, 5004, 5006, 5008, 5013, 5015, 5017, 5018, 5020, 5022, 5024, 5028, 5029, 5030, 5036, 5037, 5050, 5051, 8025, 8028, 8030, 8033, 8035, 8037

(Identification with organizational or management objectives; shared goals; commitment to organizational goals and success of organization; identification with one's work unit and its goals; perceived involvement; sense of membership and belonging; perceived individual relevance to company mission; satisfaction with, perceptions about, and attitudes toward management and organization; morale; lack of organizational identification.)

Turnover, Reduction in — 1136

Unionism, Opposition to; Reduced Interest in — 1122, 1178, 1214, 1255, 5018

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(Promotion; advancement to higher position within company; advancement of career outside company; promotion eligibility; career development as related to transfer; demotion.)

Advancement and Promotion, Need and Desire for; Satisfaction of Need — 1001, 1008, 1052, 1064, 1098, 1113, 1153, 1208, 1254, 5010, 5018

Advancement and Promotion, Perceived Opportunity for — 1014, 1052, 1078, 1114, 1129, 1136, 1148, 1149, 1154, 1156, 1160, 1176, 1188, 1192, 1194, 1202, 5004, 5007, 5009, 5010, 5016, 5017, 5018, 5020, 5028, 5029, 5041, 5047, 5048, 8000, 8008

(Perceived opportunity for; satisfaction with opportunity; loss of control over; outlook for future.)

Career Goals and Mobility — 1003, 1008, 1044, 1093, 1096, 1099, 1129, 1151, 1160, 1203, 1222, 1223, 1247, 1254, 1259, 1269, 5010, 5036, 8008, 8026

(Career goals and prospects; career mobility; mobility striving; mobility expectations; aspirations; career advancement and development; occupational status; career anxiety; frustrated ambition; satisfaction of need for achievement.)

10. EXTRA-WORK ACTIVITIES — 1042, 1047, 1075, 1084, 1091, 1147, 1158, 1172, 1186, 1191, 1214, 1222, 1223, 1224, 1225, 1260, 1266, 1269, 5009, 5010, 5014, 5015, 5017, 5019, 5028, 5029, 8000, 8035

(Includes social and personal adjustment; outside social ties; group participation vs. social isolation; value systems; political and social values; "Blue-Collar Blues"; "moonlighting"; leisure, recreation, and education activities and attitudes.) See also 10a, Consumption, and 10c, Community-Civic Participation.

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10a. CONSUMPTION (Includes standard of living; desire for consumer goods; consumer power; spending; shopping and passive leisure activities.)	1025, 1120, 1158, 1246, 1257, 5010, 5012, 5018, 5034
10b. CREATION (Creativity)	1010, 1025, 1089, 1158, 5012
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(Includes family relationships and disruption by work anxiety and overtime; home- and nuclear-family-centered life style and leisure patterns; changes in patterns; familial roles; kinship-based social networks; marital status and family responsibility; family expectations.)

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